Drug & Cosmetic INDUSTRY

MARCH 1945

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The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York, 1, N. Y., U. S. A. Business Manager, Frazer V. Sinclair; Advertising Representatives, P. W. Alexander (on leave with U. S. Army), Walter M. Brauneiss, C. R. Keeley; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly. Subscription price—$2.00 a year, in advance, Foreign Countries, $3.00. Single copies, 25c; Back issues 50c. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879. Member of Audit Bureau of Circulations.

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THOMAS R. FARRELL, Editor
ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Editor
M. A. LESSER, Technical Editor
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ONE OF 96 DOW CHEMICALS USED BY THE PHARMACEUTICAL INDUSTRY

a tip from cosmetics

for men using pigment binders, and film forming agents

Need a pigment binder in your product? Or a film forming agent? Then it may profit you to eavesdrop on an experience of the cosmetic industry. When silk stockings became an early war casualty, ladies demanded leg make-up preparations. But specifications laid down by the feminine sex were pretty tough—leg make-up must stay on and not wear off in spots, must be free of odor, harmless to the skin, uniform and stable in color, sufficiently viscous to prevent running before drying, be unaffected by perspiration—truly an imposing list of requirements.

Cosmetic executives consulted with Dow research technicians and numerous experiments followed. The final answer was Methocel. Why? Because this water soluble Dow cellulose ether, an excellent pigment binder, holds the color fast to the leg. It also acts as a film forming agent on the skin producing proper luster and opacity. It is odorless, viscous, harmless to skin, exceptionally uniform, reduces pigment settling in the bottle—all in all a perfect solution for a perplexing problem.

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INSIDE NEWS

MARCH PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Military Packaging Demands Intensify Tin Research

Global warfare on land, sea and air bombards tin cans and containers with new service demands, puts them through rougher handling than ever, subjects them to sudden temperature changes and climates ranging from arctic to tropic severity. Under circumstances often dramatic and always difficult, production of containers has made new developments and new characteristics "musts" in the overall pattern of victory.

In manufacturing and supplying our armed forces with cans and containers for food, equipment and combat weapons, National Can Corporation is contributing its share to fulfilling an important responsibility of industry. Here are only a few examples from National Can's first hand experience in connection with food protection.

Lifeboat Rations and Containers

Ration and water containers, for example, are made with protective linings for lifeboat and raft emergencies. They are so sealed as to be airtight and watertight. By construction, they are unusually sturdy to avoid breakage, leakage and contamination of contents. Cartons are buoyant to make beachhead landings easier and in order that water and food supplies can be thrown overboard from a sinking ship when survivors must subsist until rescue comes.

Containers for Special Foods

Specialties such as cheese, cheese spreads and date puddings are some of the innumerable items requiring vast quantities of suitable sanitary type, tightly-sealed, easy-opening containers for our fighters. Lend-lease food shipments also require similar type containers for packaging food products.

Containers for Food and Water

Sanitary containers for food packs are scientifically developed for shipments overseas. One illustration is a special outside camouflage coating which is applied to prevent base metal reflection in sunlight as well as to protect against atmospheric corrosion. Sealing is not only perfect but also practicable for transportation over thousands of miles.

As a result of all these diversified wartime container demands, work has been intensified in National Can's Research Department, and ceaseless experiments in the Corporation's laboratory are solving many special problems, and satisfying the ever-new and unprecedented packaging needs of our armed forces. These developments are sure to provide many permanent improvements in postwar product handling and packaging. 895

Infections Avoided for Fish Canners

Hands and arms of cannery workers handling fish or shellfish must be washed in dilute antiseptic solution immediately after work is completed if painful skin infections are to be avoided. These infections may arise not only from punctures or abrasions of the skin, but from accumulated particles of fish around the base of the nails, if these are not completely removed. When the infected condition is once established, considerable lost time may result. Established infections require medical attention. They do not respond to the sulfa drugs or to penicillin, being of a type distinctly different from infections resulting from the bacteria normally present on the human skin. 896

Vitamins in Walnuts

A native walnut in Russia has just been found to contain vitamin C (ascorbic acid) in concentrations 40 to 50 times that of lemons and oranges. Highest concentrations are in well developed ripe fruit. A simple extraction process is used, the liquid extract concentrated and used in this form in hospitals. 897

Vaccination for Young Peach Trees

p-Aminobenzenesulfanilamide, a sulfa drug, has been found to render young peach trees immune to X-disease. The disease first affects the leaves of the peach trees, causing them to become dry and brittle, and irregular patches of the blade to fall out. If the fruit does not fall, it ripens prematurely and has a bitter flavor. Since its discovery 11 years ago, X-disease has spread rapidly until today it appears throughout the northern states, seriously reducing production. Experimental results show that control as high as 100% is possible when injecting this drug into the trees. 898

Free Moisture

Moisture-testing of flour and other such materials will be quicker because of the ingenuity of a WFA worker. He has developed a method of using high-frequency electric energy in making the tests, which are required in enormous numbers in the course of government purchase of supplies. The equipment removes free moisture completely from the sample while leaving the other ingredients undamaged. 899

New Packing Procedure Chills Fish

A new procedure now being tried out may prove of value to the entire fish processing industry. This new system would make for more regular hours in packing plants since catches could be held in tanks of chilled brine for some time after the fleet comes in without spoiling. Among the advantages of this brine-chilling procedure, besides stabilizing the amount of raw material for canning, are: chilled fish are easier to handle; fish are firmer, making removal of viscera less difficult; chilling in brine whitens the flesh of cut fish, giving a more attractive pack; and women packers can pack more chilled fish in the same length of time. 900

British Labeling

The provisions of the "Labelling of Food Order, 1944", issued in London, sound familiar to U. S. manufacturers. Name and address in the United Kingdom of the manufacturer or packer, or of the importer of pre-packed foods, is required, but a registered trade mark is recognized as a satisfactory substitute. The common names of the food ingredients must be listed, in the order of their proportions. Spices and flavorings can be merely named as such. Artificial coloring must be declared. The minimum quantity of food in the package must be stated. A regulation covering claims regarding vitamins and minerals has been included. 901

Cooling Cultures Silkworms

Culture of silkworms may now be profitable in Brazil through use of refrigeration. Under otherwise ideal conditions for mulberry trees, heat has been a limiting factor in cocoon formation. Now, with cooling, 10 crops a year are possible. 902

Once Good King Can was monarch
Of Sales Appeal in stores;
Today he's tops among Gls,
And lightens K. P. chores.
And when this war is over,
He'll come back even stronger
Enthroned in homes and dealers' shelves
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Returning Servicemen Expected to Influence Food Habits

Men returning from service may have a greater influence on food habits than is now expected. According to the Army's own survey of its men's postwar plans, something like one out of every 143 enlisted men (0.7 per cent) is planning to operate a food retailing business. Many of them already have capital and experience to invest. And all of them will be thoroughly aware of the advantages and disadvantages of processed foods. 903

Growing Beets Helped by Salt

Common table salt has now been found to cure deficiencies when growing beets. In fields where beets seem to "stand still" or where the leaves show purple spots and very dark foliage, side dressing the plants with a combination of salt and some nitrogenous fertilizer may bring prompt recovery and increased yields. Growers are urged, however, to use the salt on only part of each field, as tests have not covered a sufficient number of soil types to determine its effectiveness on all soils. 904

Rotproofing Wood

Rotproofing of wood by the use of surface coatings may prevent damage and sanitation problems around food plants. Preservation of the wood from attack by fungi, molds and bacteria depends not only on the toxicity of the coating but on its ability to adhere during service. A test for the efficiency of rotproofing treatments measures the effect of rotting on the tensile strength of specimens exposed under standard conditions. Loss of strength is more rapid and more nearly reproducible in wood exposed to rot-producing organisms than is loss of weight. Food processors contemplating rotproofing of their wood structures should be familiar with this test method. 905

Water Transformed

Water can now be transformed into the chemical equivalent of distilled water by a simple filtration process which is made available in portable and stationary equipment designed for all types of users. The principle involves filtration by skillful utilization of melanine-derivative and other resins. 906

Wood Resists Flame, Moisture and Warping

Methylolurea (from the combination of dimethylolurea with urea) has the characteristic of making ordinary wood flame-resistant, moisture-resistant, and warp-proof. Sticking doors, windows, and drawers are caused by swelling. Compressing the wood after treatment will completely avoid these inconveniences, although just applying the chemical will prevent jamming. 907

Technical Topics

IMPROVES STABILITY — Recently patented formulas improve the stability of polyvinyl alcohol glycerine combinations by the addition of formamide, acetamide or similar compounds. 908

VITAMINS—An advance in vitamin chemistry is the discovery of a method of making ferrihemochromogens soluble at physiological pH so they may be administered parenterally or by intestinal absorption. The substance is of value as an antidote for various forms of poisoning, and as a source of iron in cases of iron and vitamin B deficiency. 909

PEPPERMINT OIL — Experiments begun in 1937 by an agricultural experiment station reveal factors causing deterioration of peppermint oil in storage, and recommend best methods for overcoming the chemical and physical changes. 910

FILTER PAPER ADHESIVE—A satisfactory adhesive for sealing filter paper in a Buchner funnel for pressure filtration of viscous solutions of resin, with the aid of a pressure cooker, can be made by dissolving 20 grams of half-second nitrocellulose in a mixture of 40 grams of butyl acetate and 40 grams of xylene. 911

SEITZ FILTRATION — Bacteriological workers have reported an increase in pH resulting from Seitz filtration. Solutions normally handled through these filters, including beer, are of a type particularly sensitive to changes in pH, so that this tendency, if confirmed, must be taken into account whenever sterile filtration is used in processing or testing. 912

ALLY STARCH—Ally starch, a new resinous coating material that looks like varnish, withstands high temperature and action of most chemicals and solvents, and is made from sugar and starches. Freshly prepared, it is soluble in most paint and varnish solvents and can be applied to wood, paper or glass. 913

DISINFECTANTS PROTECT SWINE—Coal tar disinfectants are quite widely used by farmers for preventing and checking development of necrotic enteritis in swine. The disinfectant is fed in the slop, occasionally in soaked feed. The proportion commonly used is 1 teaspoonful to five gallons of slop for each twenty pigs weighing 50 pounds or over. 914

SOAPSTOCK—Favela oil, from species of Cnidoscolus native to northeastern Brazil, is suggested as a soapstock, its unsaponifiable portion being but 0.96 per cent. It does not easily become rancid, hence is suggested for food use. 915

NEW INSECTICIDE — "Ryanex," a new insecticide, is prepared from a tropical plant, ryania speciosa, which may be used either as a dust or a spray against the European corn borer, prevalent in New York and New Jersey. 916

SULFONATED SPLIT CASTOR OIL ACIDS — Sulfonated split castor oil acids, claimed to be as effective as Turkey red oil from whole castor oil, are made by esterifying, before sulfonation, the split acids with methanol or other monohydric aliphatic alcohol with not more than five carbon atoms. 917

INFRA-RED RADIATION FOR PAINT —Infra-red radiation is being rapidly developed as a means of quickly drying and baking paint, varnish, and lacquer films without damage to structure or appearance. 918

CONTAMINATED WATER RENDERED HARMLESS—Halazone tablets render contaminated water harmless. These tablets are a part of the soldier's or sailor's kit. 919

OIL FOR PAINT AND VARNISH — Milkweed seeds, now discarded after the floss has been utilized for life preservers, has been found to contain an oil useful in paint and varnish. 920

WATER-SOLUBLE PAINT STRIPPER —A water-soluble paint stripper has been developed which may be hosed on the surface to be treated. This leaves the surface ready for painting. 921

TURPENTINE AND ROSIN — A new process has been developed whereby turpentine and rosin are produced from crude gum as it comes from the trees. 922

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article — also name of the magazine you saw it in.

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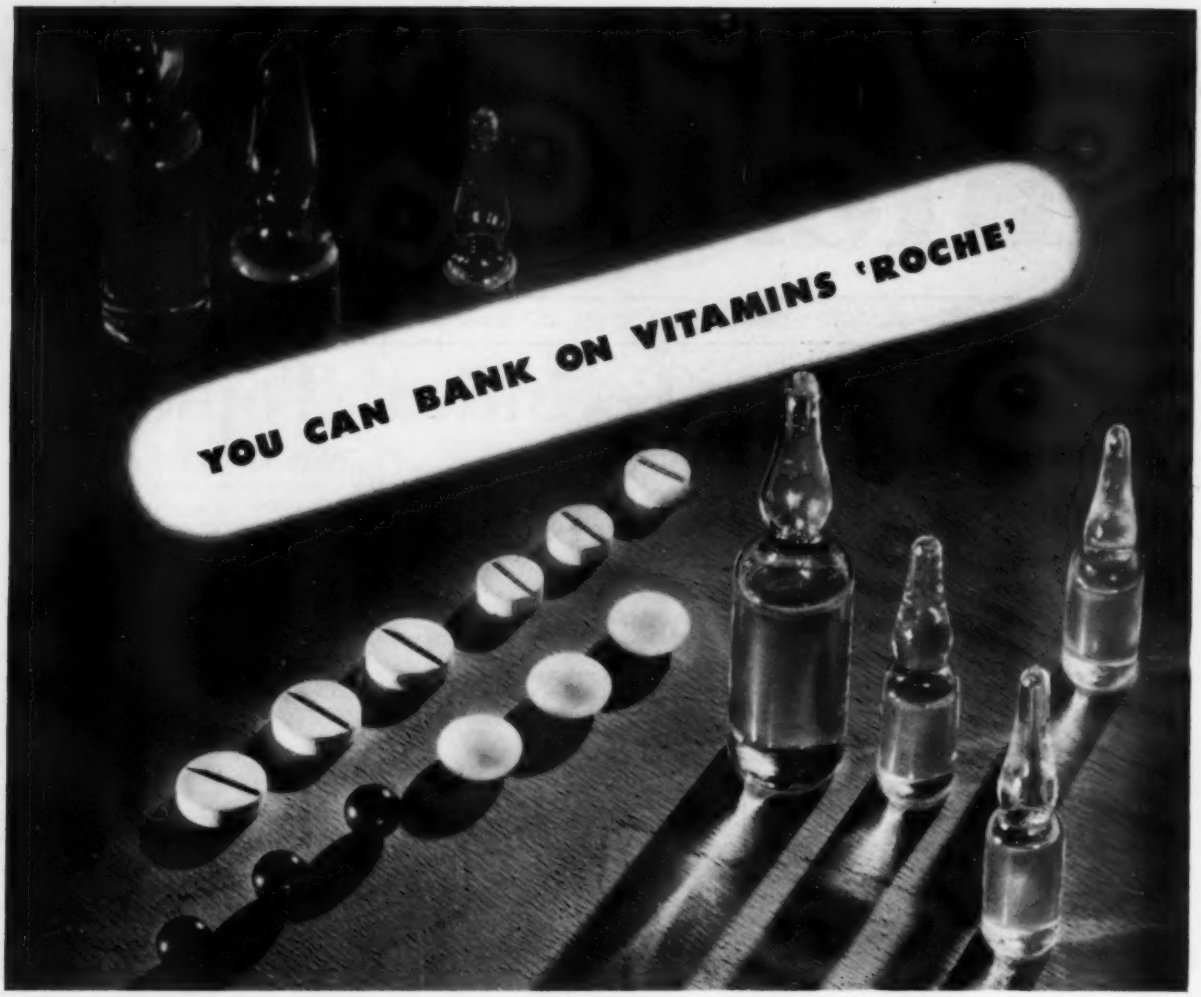

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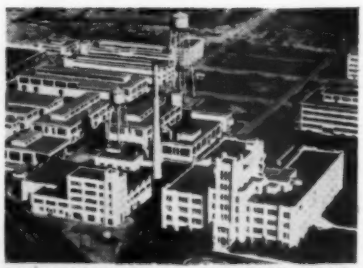

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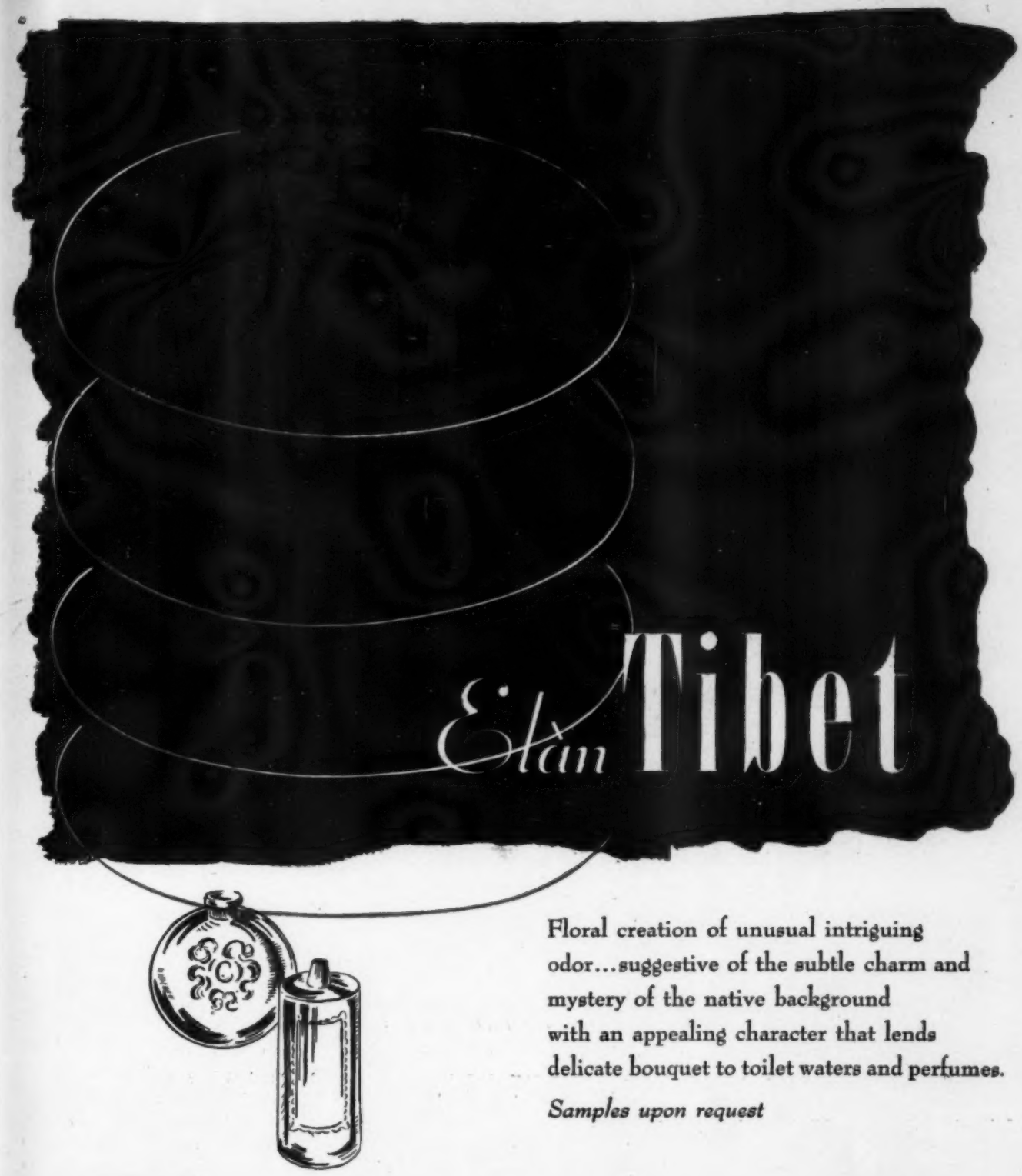

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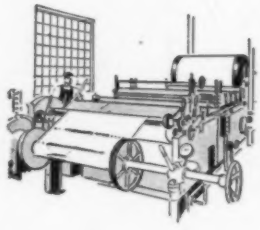

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Combined with glyoxal, hydroxyethyl cellulose becomes water-resistant. Such a film, being insoluble in oils, greases, and organic solvents, should be useful in vapor- and liquid-proof packages. When paper toweling is impregnated with small amounts of hydroxyethyl cellulose and glyoxal its wet strength is greatly increased.

"Cellosize" Hydroxyethyl Cellulose WS is a good protective colloid for dispersion of oil, fats, waxes, and pigments, and should be useful in emulsion polymerization, emulsion varnishes, and water paints. It has adhesive properties.

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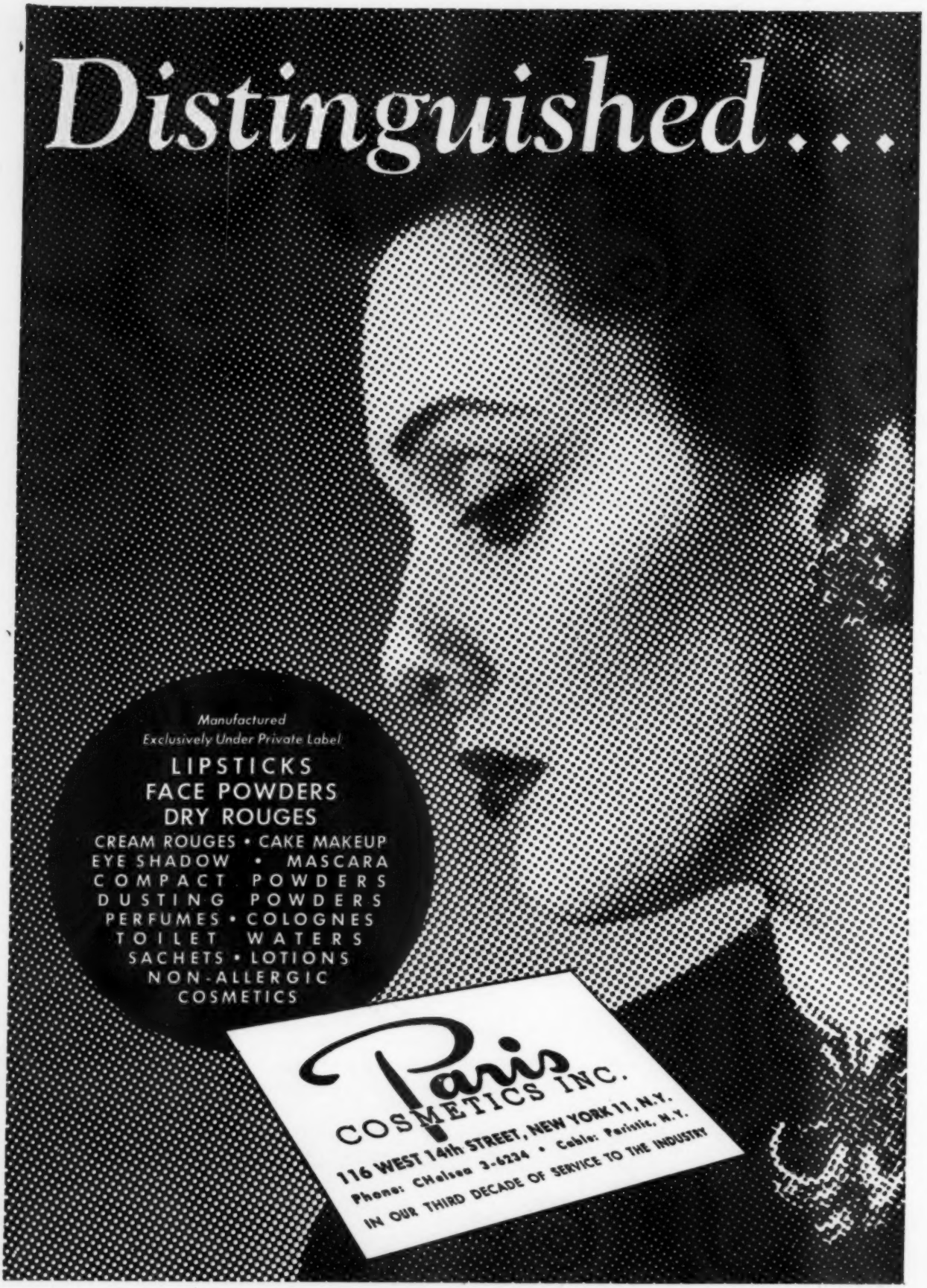
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IN OUR THIRD DECADE OF SERVICE TO THE INDUSTRY

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FINE CHEMICALS

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  Granular and Powder
- **CALCIUM BROMIDE N. F.**
  Powder
- **LITHIUM BROMIDE N. F.**
  Powder
- **POTASSIUM BROMIDE U. S. P.**
  Granular · Crystals · Powder
- **SODIUM BROMIDE U. S. P.**
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Write for current products list

HEYDEN *Chemical Corporation*

393 SEVENTH AVE., NEW YORK 1 · 180 N. Wacker Drive, Chicago 6

Benzaldehyde · Benzoates · Benzoic Acid · Benzyl Chloride · Bromides · Chlorinated Aromatics · Medicinal Creosotes · Formates · Formaldehyde · Formic Acid
Glycerophosphates · Medicinal Guaiacols · Hexamethylenetetramine · Paraformaldehyde · Para-Hydroxybenzoates · Penicillin · Pentaerythritols · Salicylates

Highest Quality
white oils... petrolatum
Made by one of the oldest firms in the business under modern methods with exacting quality control at every step of manufacture, PENN-DRAKE petroleum products measure up to your most exacting requirements of purity, uniformity and dependability.
And if you need products having characteristics that differ slightly from standard classifications—but maintaining highest quality and uniformity—get in touch with PENN-DRAKE!
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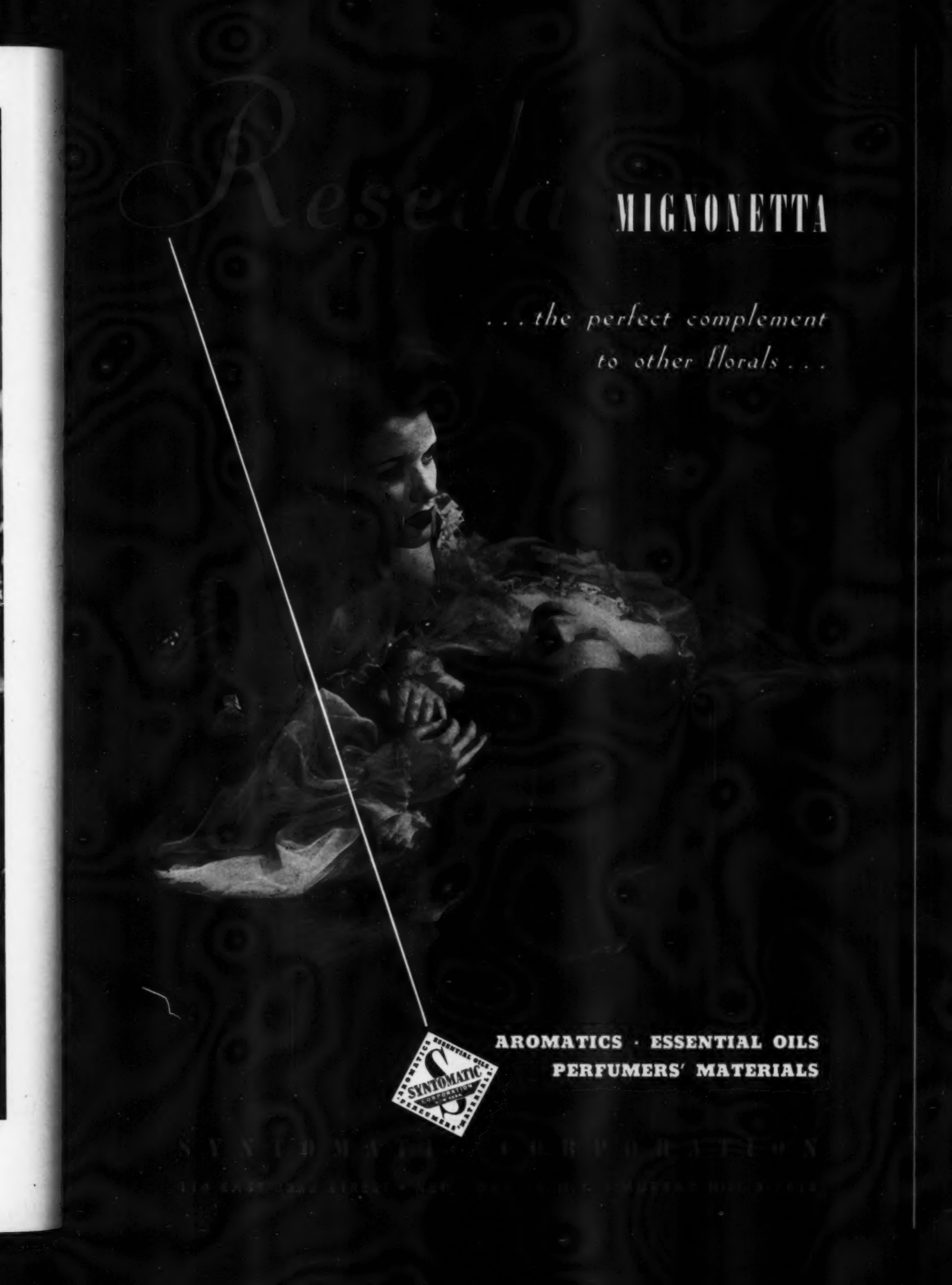
petroleum products
PENNSYLVANIA REFINING COMPANY
GENERAL OFFICES . . . BUTLER, PA.
Makers White Oils (U.S.P. and Technical); Petrolatums (all grades and colors); INSECTI-SOL (deodorized insecticide base); Deodorized and other Naphthas; Petroleum Sulphonates; Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils and other petroleum products.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MIGNONETTA
. . . the perfect complement
to other florals . . .
AROMATICS · ESSENTIAL OILS
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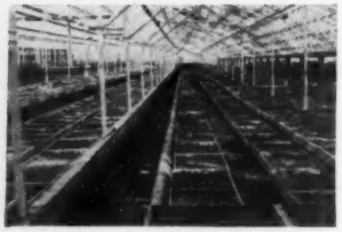
ANNOUNCING OUR PILOT FARM

to grow drug-bearing crops

A New Development Affording Opportunities To Drug Manufacturers . . . Which Have Never Before Been Available In The United States

Although we have cultivated large quantities of vital drug plants under war pressure, a practical long-range program demands centralizing of experiments in one location. With aid of government experts, we have selected acreage in Pennsylvania . . . there the new Pilot Farm is being equipped for the first season's production.



Our project includes pilot plant surveys for domesticating wild plant species, agronomy, plant selection and breeding, greenhouse forcing, control of fungi and diseases, and determining whether active principles can be substantially increased . . . especially in drugs possessing alkaloidal and glycosidal properties.

Our Pilot Farm will assist in solving problems arising from diminishing supply of any botanical drug, and will conduct experimental work in anticipation of commercial growing—of either general or confidential nature. We invite correspondence on any botanical products.

S. B. PENICK & COMPANY

50 Church Street, New York 7, N. Y. **Telephone: COrtlandt 7-1970**

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BUY WAR BONDS AND STAMPS . . . . FOR VICTORY

excellent*

J·S·Ivins' SON, INC.
GOOD BISCUITS
PHILADELPHIA, PA.
November 12, 1943
Mr. S. J. Klein, President
Empire Box Corporation
Garfield, New Jersey
Dear Mr. Klein:
We feel that you have given J. S. Ivins' Son, Inc. excellent* treatment.
We have no suggestions for improved service, but simply ask that it be continued.
Yours very truly,
J. S. IVINS' SON, INC.
T. L. Frymire,
Treasurer
ANOTHER CARTON-CUSTOMER SAYS EMPIRE'S SERVICE IS EXCELLENT

Number 18 of a series of "wartime" letters from old customers—many of them leaders in their field.

As a user of Folding Cartons, you can consider the above letter indicative of Empire's pledge to give faithful service in future years of need . . . an invitation to write us about your near-future needs, now!

Empire BOX CORPORATION

OFFICES: NEW YORK • CHICAGO • PHILADELPHIA • BOSTON • GARFIELD, N. J.
PLANTS: GARFIELD, N. J. • SOUTH BEND, IND. • STROUDSBURG, PA.

Staff Allen's

English Distilled Oils

Stafford Allen & Sons Ltd.,
LONDON, ENGLAND

CLOVE
LAVENDER
NUTMEG
ORRIS
PATCHOULY
PEPPERMINT
SANDALWOOD

BRITAIN DELIVERS
THE GOODS

The Markets of the world accord highest honors to these valuable distilled oils

AMERICAN REPRESENTATION BY

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Sales Branches

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LOS ANGELES

NAME-CALLING STARTS EARLY....

And continues. Later, when she's a grown-up, she'll use names to identify her favorite products. That's the point. You supply the product name, and we'll supply the complete packaged cold permanent wave solution all ready for your label. Certainly it contains the genuine Tyo ingredient.

MARTIN
LABORATORIES
251-255 East 139th Street
New York 51, N. Y.

four plants in New York and New Jersey · makers of **TYO** *thioglycollic acid and its derivatives*

MERCK

A RECOGNIZED AND DEPENDABLE SOURCE OF FINE CHEMICALS FOR THE PRODUCTION OF *Cosmetic Preparations*

THE importance of high-quality ingredients is recognized by manufacturers of successful cosmetic preparations—those purchased by "brand name"—because satisfactory results have created a growing demand, and steady repeat sales.

Consumer acceptance of cosmetic preparations depends in large part on *quality, uniformity,* and *reliability.* Leading manufacturers incorporate these sales-building features into their preparations by using Merck chemicals.

The high recognition accorded to Merck Chemicals throughout America is proof of how well the Company has kept faith with those whom it serves. Today, more than 1,200 products are supplied to physicians, dentists, veterinarians, pharmacists, chemists, laboratories, and various branches of industry.

The Merck policies of scientific research and rigid laboratory control of purity and uniformity . . . fortified by a rich tradition of experience and modern production facilities . . . assure continued leadership in present fields of chemistry, as well as in those still to be explored and conquered.

We invite you to consult us regarding your manufacturing problems and requirements

ARMY E NAVY
Speed the Victory with War Bonds

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N. J.

NEW YORK, N. Y. • PHILADELPHIA, PA. • ST. LOUIS, MO. • ELKTON, VA. • CHICAGO, ILL. • LOS ANGELES, CAL.
In Canada: MERCK & CO. Ltd., MONTREAL and TORONTO

make better sun-tan products for less!

SUNAROMES

..FELTON'S EFFECTIVE SUN SCREEN PERFUMES

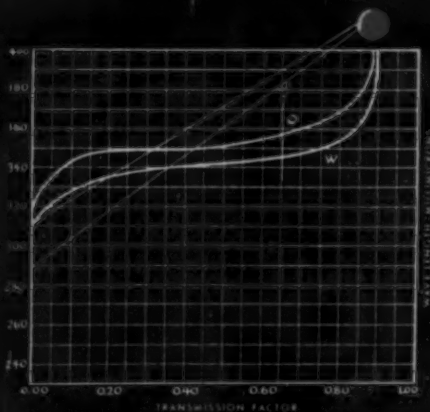
SUNAROMES "O" are oil soluble
SUNAROMES "W" are water soluble

Just consider the many advantages of a product that not only perfumes your sun-tan preparations most attractively, but which in itself is a very effective screen against the burning rays of the sun. Then you'll understand why Felton's Sunaromes have been widely used in the manufacturing of so many successful sun-tan products.

Sunaromes are supplied in a number of delightful fragrances... and it's easy to make fine sun-tan preparations with them.

Just mix Sunaromes with the base you prefer... water gum, water alcohol, or even water alone. You can also use a liquid cream base, mineral oil, fatty oil, and others. It's the Sunaromes that make them effective sun screens... and scent them so attractively. The protection is positive... and there is no problem of skin irritation.

SUNAROMES PROTECT AGAINST THESE SUN-BURNING RAYS!



FELTON CHEMICAL CO., INC.

599 JOHNSON AVENUE, BROOKLYN, N. Y. • BRANCHES IN PRINCIPAL CITIES

WRITE NOW for Samples and a leaflet containing complete data, prices and interesting formulas.

Archives of Aromatic Advancement

WITH RESOURCES BY *Givaudan*

Behind the advanced service in odors, perfume bases and aromatics that Givaudan gives to the perfume and cosmetic industry, lies intimate knowledge of thousands of working materials. The broad scope of Givaudan's acquaintance with organic chemicals and perfume components of every description and for every compounding purpose, is in fact, one of the outstanding advantages enjoyed by Givaudan customers. For this knowledge is constantly proving useful in the development of special odor effects and adaptations of perfume and cosmetic products to special demands and conditions of use.

You are invited to submit your aromatic problems to Givaudan . . . to learn the quality of Givaudan products . . . and let Givaudan resources and skill improve the quality and broaden the range of your products' appeal.

"BUY WISELY . . . BUY GIVAUDAN"

Givaudan-Delawanna INC.

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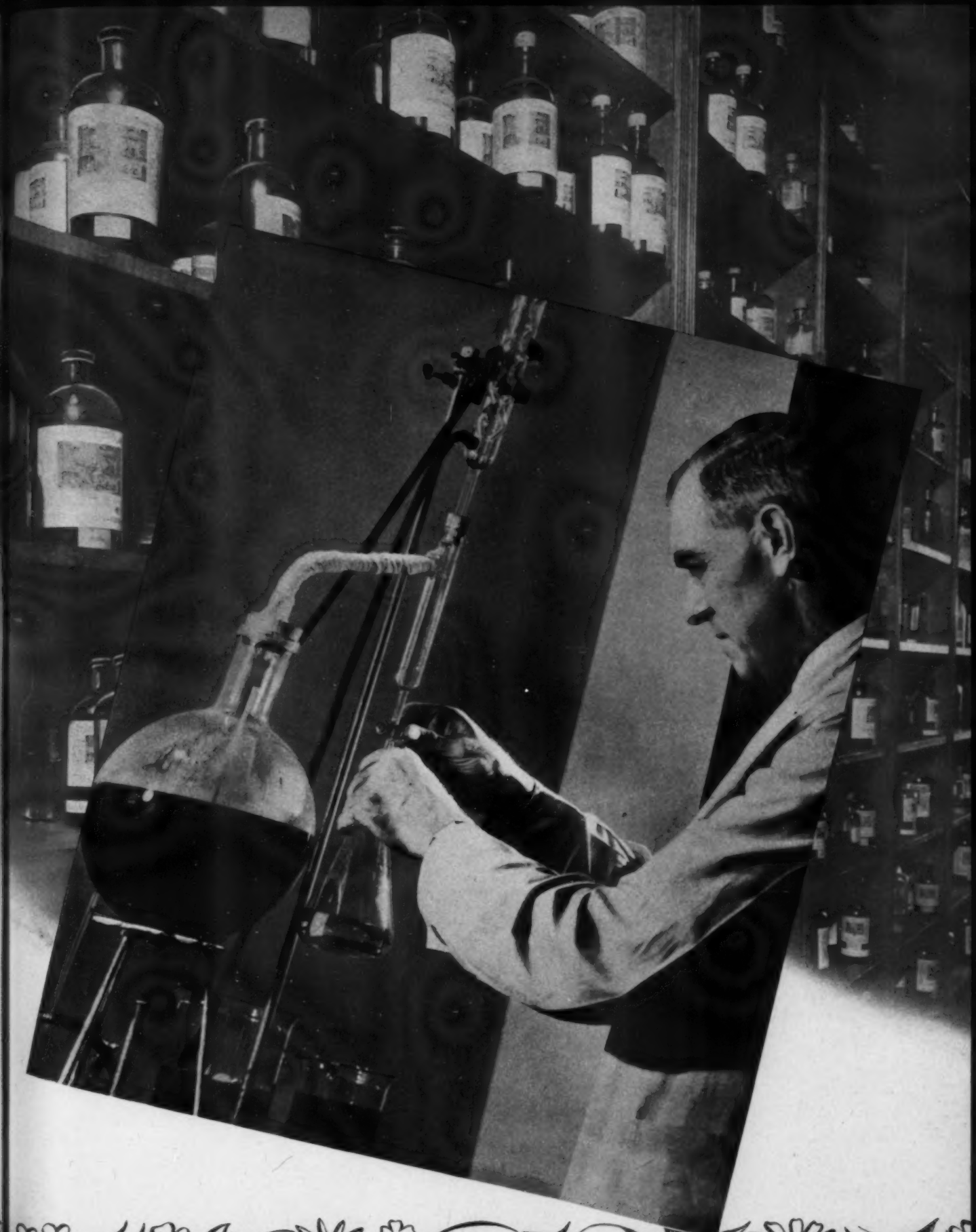

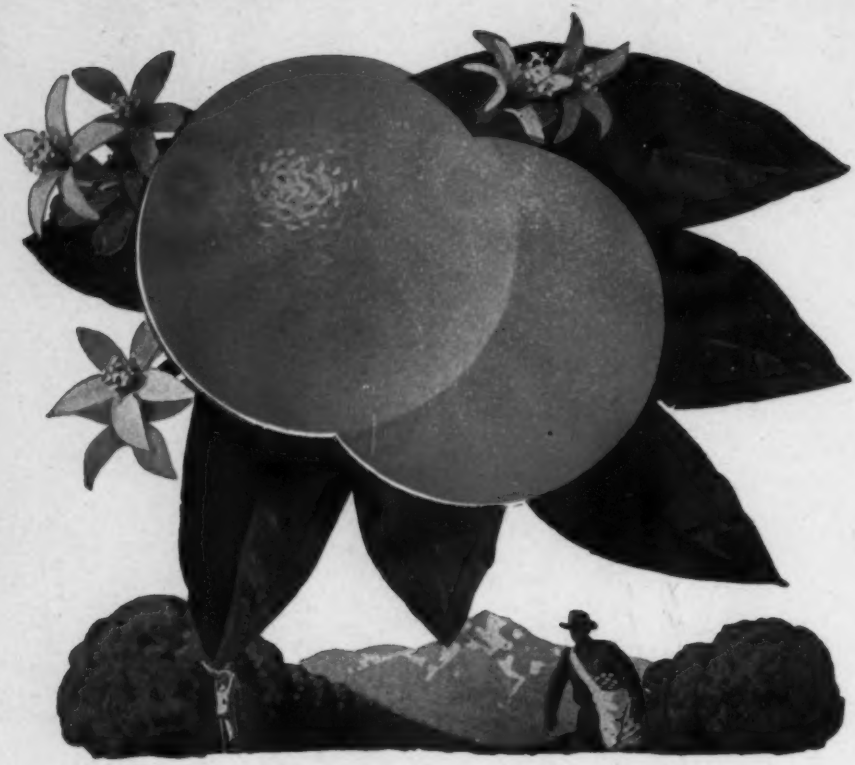

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First in America for Orange Flavor

Give it all your tests for *quality, uniformity,* and *strength.* The results speak for themselves! You'll find Exchange Oil of Orange puts more *real orange flavor* in your products than any other orange oil.

Because it's made only of fruit from the "Sunkist" groves of California... in the largest orange products plant in the world... accepted and reordered by men and women who know orange flavor.

Copyright, 1945, California Fruit Growers Exchange, Products Dept.

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Distributors for

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OUR NEW EMOLLIENT LIPSTICK

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Non-Toxic Even to Sensitive Lips

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[Two Plants]

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To Users of ISOPROPYL ALCOHOL

★ ★ ★

To Give Your Product TOP CONSUMER PRIORITY You Need IA No. 1

● Out of the MM&R research laboratory has come the perfect solution for overcoming the characteristic odor of Isopropyl Alcohol. The answer is NEUTRALIZER IA No. 1 MM&R! Specifically designed to depress and neutralize the objectionable odor of Isopropanol without distortion of subsequent additions of perfuming ingredients.

The use of this neutralizer in the suggested proportion — 1 ounce to 20 gallons of Isopropyl Alcohol — is not only economical initially, but also serves the added purpose of reducing the amount of perfume oil required to provide the odor identity common to your product.

Testing samples, suggested usage and schedule of prices immediately available.

NEUTRALIZER IA No. 1
ISOPROPYL ALCOHOL DEODORIZER

MAGNUS, MABEE & REYNARD, INC.
QUALITY ESSENTIAL OILS, BALSAMS, AROMATIC CHEMICALS, BASIC PERFUMES, FLAVORING MATERIALS SINCE 1915
16 DESBROSSES STREET, NEW YORK CITY • 221 NORTH LASALLE STREET, CHICAGO

San Francisco: Braun-Knecht-Heimann Co. • Los Angeles: Braun Corp. • Seattle, Portland, Spokane; Van Waters & Rogers, Inc. • Canada: Richardson Agencies, Ltd., Toronto.

ESCALOL 106

makes the sun safe for the skin

Escalol 106 has its roots in research work that we began during the first World War, when we were manufacturing certain products for the aeroplane division of the War Department. Our objective was a product that would protect the cellulose acetate tautening and protective agent used on the wings of the fighting planes against the destructive action of the ultraviolet spectrum in sunlight. After the war, in 1921, we did considerable work on a somewhat similar problem, the protection of textile dyes against sunlight. The results of our research were focussed eventually on the development of screening agents that would protect the human skin against sunburn.

★ ★ ★ ★

Escalol 106 forms a flexible and invisible continuous film on the skin that does not crystallize as the solvent vehicle evaporates. The film makes the ultraviolet rays that cause sunburn innocuous to the skin. However, it does not impede the transmission of the rays that cause tanning. It has a high degree of resistance to water and perspiration as well as abrasion. It maintains its potency over long periods of exposure to sunlight, thus giving preparations in which Escalol 106 is used a safety factor that makes them fool-proof: they give adequate protection even when users fail to reapply them as frequently as the directions on the label of the package suggest.

The sunscreening values of Escalol 106 exceed substantially those specified by the Quartermaster Corps for sunburn preventive preparations for use by the Army. These high values, which were demonstrated in field tests conducted by the Army on snow and ice slopes, where direct and reflected radiation makes unusually severe demands on sunscreens, led to the adoption of sunburn preventive preparations containing Escalol 106 by the Army. They are reflected by the experience of leading cosmetic and pharmaceutical manufacturers who are marketing preparations containing Escalol 106 and who have found them to give unvarying satisfaction to the user.

Escalol 106 is effective in small concentrations, thus making it economical to use and also eliminating the possibility of physiological disturbances that are apt to follow when sunscreens are used in large concentrations. It is non-toxic and non-irritating.

★ ★ ★ ★

Samples of Escalol 106, together with complete technical data and suggested formulations for various types of sunburn preventive preparations, will gladly be sent upon request.

VAN DYK & COMPANY
INCORPORATED 1904
Manufacturers of Perfumery and Cosmetic Raw Materials Since 1901
OFFICES, FACTORY AND LABORATORIES:
MAIN AND WILLIAM STREETS, BELLEVILLE 9, NEW JERSEY
WESTERN OFFICE: 1282 SUNSET BOULEVARD, LOS ANGELES

1910 1945

35 YEARS OF SERVICE

in the DRUG, CHEMICAL and ALLIED PRODUCTS FIELD

IMPORT -:- EXPORT

35 Anos de Serviço
no Negocio de Drogas, Produtos Quimicos e Seus Derivados

Desde 1910 que tivemos sempre o mesmo proposito em mente: aumentar constantemente o nosso prestimo a todos os nossos amigos, proximos e distantes, dando-lhes serviços melhores e mais valiosos.

Estamos certos, de que estes 35 anos mostram a prova de que conseguimos alcançar os nossos fins e de que ganhámos a confiança dos nossos numerosos fornecedores e clientes. Por esta razão consideramo-nos verdadeiramente gratos e asseguramos aos nossos amigos, aqui e no estrangeiro, que continuaremos a seguir sempre e com toda a fidelidade a nossa norma:

prestar sempre melhor serviço.

35 års tjeneste
i drogeri, kjemiske og allierte produksjonsfelter.

Siden 1910 har vi fulgt en idé — å öke i stigende grad vår nytte overfor våre venner, fjern og nær, ved alltid bedre og mere pålitelige tjenester.

Vi er av den oppfatning at disse 35 år bærer vidnesbyrd om at det har lykkes oss å leve opp til vårt mål og at vi har vunnet våre mange kunders og leverandörers tillit, både innenlandske og utenlandske. Vi er meget takknemlige for dette, og vi forsikrer våre venner, her og utenlands, at vi skal fortsette vår loyalitet mot dette prinsipp:

alltid å yte bedre tjenester.

35 années de service
dans le domaine des produits pharmaceutiques, chimiques et similaires

Depuis 1910, nous avons poursuivi un seul et unique but: nous rendre de plus en plus utiles à tous nos amis, ici et au loin, en leur assurant un service de plus en plus satisfaisant et sûr.

Nous sommes convaincus que ces 35 années de service prouvent de façon éclatante que nous avons réussi à suivre la voie que nous nous étions tracée, et que nous avons su gagner la confiance de nos nombreux clients et fournisseurs, ici et à l'étranger. Nous leur en sommes sincèrement reconnaissants, et nous assurons tous ces fidèles amis que nous continuerons à observer strictement le principe qui nous a sans cesse servi de guide:

Fournir un service toujours meilleur.

★ ★

Since 1910 we have followed one thought, pursued one idea, tried to bring one principle to life: to increase constantly our usefulness to our friends, far and near, by ever better and more reliable service.

We feel that these 35 years give testimony that we succeeded to live up to our aims, and that we gained the confidence of our many domestic and foreign customers and suppliers. For this we are truly grateful and we assure our friends, here and abroad, that we shall continue our loyalty to this principle of ours: *to give ever better service.*

★ ★

本公司在葯品，化學及同類產品方面服務歷有三十五年

自一九一〇年以來，本公司向守唯一意念，日益改進優良及可靠之服務，力求對我遠近友好之効用不斷增加。

本公司相信此過去之三十五年，可以明證本公司已達到所抱目標，而博得國內外顧客及辦庄之信用。以此本公司確爲感謝，並向海內外友好保証，此後自當繼續盡忠於敝公司之原則：

貢献日加改良之服務。

35 Anni di Servizio
nel campo delle Droghe, della Chimica e di Prodotti Analoghi

Fin dal 1910 abbiamo seguito un solo modo di pensare, di aumentare costantemente la nostra utilità verso i nostri amici, lontani e vicini, con servizio sempre migliore e sempre più fidato.

Crediamo che questi 35 anni siano testimonianza del successo delle nostre aspirazioni, e che abbiamo acquistata la fiducia dei numerosi clienti e fornitori domestici e stranieri. Per tutto ciò siamo oltremodo grati e desideriamo assicurare i nostri amici, qui e all'estero, che continueremo la nostra fedele adesione al principio che ci siamo prefisso:

di darvi un servizio sempre migliore.

35 שנים בשרה חיצורים של סמי-רפואה, כימאים והרומים להם

ב-1910 ואילך כל מאמצינו חיו מכוונים למטרה יחידה: — להרבות, באופן תדירי, את תועלתנו למוכת ידידינו, מרחוק ומקרוב, באמצעות שירות שאפשר לסמך עליה יותר ויותר.

יש לנו ההרגשה, ש-35 שנים אילו מעידות, שלא החמאנו את המטרה אליה שאפנו וכי רכשנו את אימונם של לקוחותינו וממפקינו, בארץ ומחוצה לה. תודתנו נתונה בעד זאת לכלם, ומבטיחים אנו לידידינו, פה ובחו"ל, שאנו נמשיך להיות נאמנים לעיקרון שלנו: — להמציא שירות תמיד יותר ויותר משובחת.

35 Dienstjaren
Op het Gebied van Drogerijen, Chemicaliën en Aanverwante Artikelen.

Sedert het jaar 1910 hebben wij slechts één doel gehad, namelijk de belangen van onze vrienden, ongeacht of zij in onze nabijheid of ver weg gevestigd waren, steeds beter en meer betrouwbaar te behartigen en wij hebben dit doel nooit uit het oog verloren.

Wij zijn van meening dat deze 35 jaren het bewijs leveren dat wij aan dit ideaal hebben opgeleefd en dat wij het volste vertrouwen van onze binnenlandsche zoowel als buitenlandsche cliënten hebben verworven.

Wij zijn hiervoor ten zeerste dankbaar en verzekeren onze vrienden, hier en in het buitenland, dat wij ons ook in den toekomst zullen houden aan het principe:

Steeds betere bediening te geven.

35 Años de Servicio
en la Venta de Drogas, Productos Quimicos y Otros

Desde 1910 hemos tenido solamente la idea de aumentar constantemente nuestra ayuda a los amigos, cercanos y lejanos, dandoles mejores y mas valiosos servicios.

Nos sentimos seguros que estos 35 años son una prueba de nuestro exito, en conseguir nuestros propositos y de que nos hemos ganado la confianza de nuestros clientes y vendedores muy numerosos, tanto aqui como en el extrangero. Por este motivo estamos verdaderamente agradecidos y podemos asegurarles a nuestros amigos, tanto aqui como en los demás paises, que continuaremos fieles a nuestro lema:

Dar siempre el mejor servicio.

CHAS. L. HUISKING & CO., Inc.

155 Varick Street, New York 13, N. Y.

CHICAGO OFFICE: 561 E. ILLINOIS ST. CABLE ADDRESS: HUISKING, NEW YORK

LONDON AGENTS: WHEELER & HUISKING, Ltd., 26 Great Tower St., London, E. C. 3, England

COD LIVER OIL U.S.P.
Finest Medicinal Grade Various Potencies
Prompt and later shipment

VITAMIN A AND D FEEDING OILS
VITAMIN CONCENTRATES

PEDER DEVOLD OIL CO., INC.
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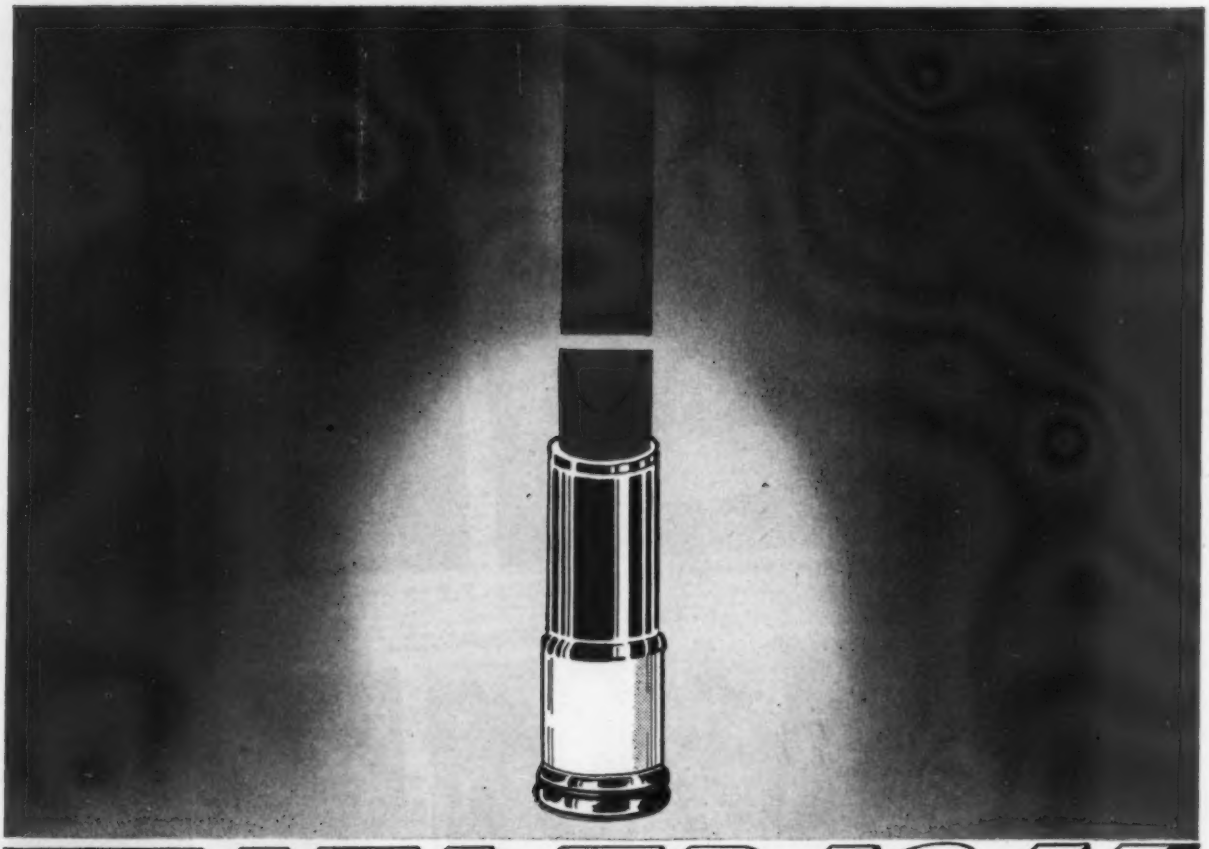
SANTONIN
Meeting Requirements of all International Pharmacopoeias

ALKALOIDS OF AMERICAN MANUFACTURE

SANTONINE COMPANY OF AMERICA
155 Varick Street, New York 13, N. Y.
Cable Address: SANTONICUS, New York

PROTECTORS IN GLASS:
A LIFT TO LIVING
Disinfected, deodorized, before you can say sodium hypochlorite! Seems there's an almost endless list of things this cleanser-disinfectant is good for—from use in laundering gags (as John Lardner's children are, here) to sweetening dental plates. Commonest uses: in cleansing refrigerators, woodwork or linoleum, removing stains, bleaching clothes. But read the label! You'll find dozens of ways sodium hypochlorite can protect your family's health, save time, work. Whatever trade-named variety you prefer, if you're intelligently lazy, you keep one of the neat brown bottles within easy reach, upstairs and down.
Mrs. John Lardner's furniture can take it! "I spread wax and polish on floors and furniture with a lavish hand," says the wife of the war correspondent and columnist. "It's amazing how frequent coatings protect surfaces against wear and tear." Her youngsters can dish out wear and tear, too—not being exactly the snoopy type (as you may gather from the picture of pianist John, above).
"Gunning for moths, ants, flies is young Susan's department," says Mrs. Lardner, who buys insect spray thriftily in large bottles. "I had one experience with moths—then I got smart!" So blankets, drapes, winter clothes (when Susan can be parted from her "drum-up") are shaken, brushed, sunned, moth-closeted in a protective cloud of spray.
Economical, truthful glass containers look so attractive we're apt to forget that they are made mostly of sand—one of nature's most abundant materials. This, plus the uncanny speed and skill of today's modern glass-making techniques, makes possible the low cost of these protective, convenient, modern containers.
"Goodness, how my second clue-closet saves steps," Mrs. Lardner says. Why tote cleaners? Put up a rack for a duplicate set on a closet door! Glass bottles let you see when to re-order, are easy to open, clean, pour from, wipe clean.
Enjoy Fred Waring and his Pennsylvanians Thursdays. Coast to Coast. Blue Network—EWT 10 PM, CWT 9 PM, MWT 8 PM, PWT 7 PM.
OWENS-ILLINOIS GLASS COMPANY ... TOLEDO, OHIO —makers of containers that give a "lift to living"
WAX
Duraglas
TRADE MARK REG. U. S. PAT. OFF.
A NAME THAT HELPS YOU SEE WHAT YOU BUY!
NOW! A LIFT TO YOUR SALES IN Duraglas CONTAINERS!
TRADE MARK REG. U. S. PAT. OFF.
IN APRIL, Duraglas Container national advertising in the Saturday Evening Post and in Collier's features household products packed in Duraglas Containers.
In April, in the long list of grocery trade papers used by Owens-Illinois, we will remind grocers of the advantages featuring household products packed in Duraglas Containers during the housecleaning season.
This is all part of the Duraglas Container Service that co-operates with you from your production line to your customers' minds.
FREE! You can get free reprints in 4-colors of the Duraglas advertisement for your salesmen to show your customers for display purposes. Just write us, mentioning the number of reprints you can use.
OWENS-ILLINOIS GLASS COMPANY
TOLEDO 1, OHIO
Enjoy a "Lift to Living" that is a Lift to Selling products packed in Duraglas Containers—Fred Waring and his Pennsylvanians, over the Blue Network from coast to coast every Thurs. Evening—10 p.m. E.W.T. —9 p.m. C.W.T.—8 p.m. M.W.T.—7 p.m. P.W.T.



HELFRICH

HEADQUARTERS FOR
ONE OR A COMPLETE LINE OF
QUALITY TIME TESTED
PRIVATE LABEL COSMETICS

HELFRICH PRIVATE LABEL COSMETICS

Rouge	Cake Makeup
Cream Rouge	Mascaras
Lipsticks	Solid Perfumes
Eye Shadow	Cream Cologne
Face Powder	Face Creams
Sachets	Lotions
Etc.	Etc.

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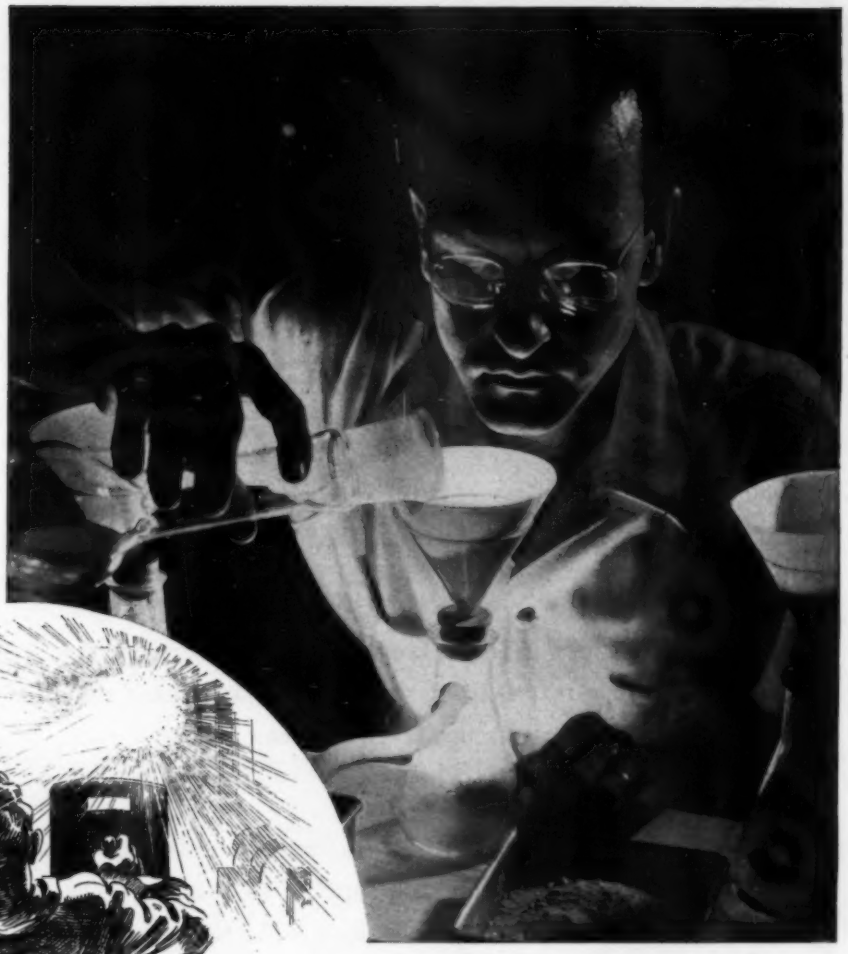

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POST WAR planners in the cosmetic industry look for a great fashion revival. They know that *Nail Enamel* will be in the lead in fashion cosmetics.

Durlin's laboratory and factory have been busy with war work and in giving every possible help to *Durlin* customers. But we have never lost sight of the great opportunities that new technical developments will open for cosmetic manufacturers in *Nail Enamel.*

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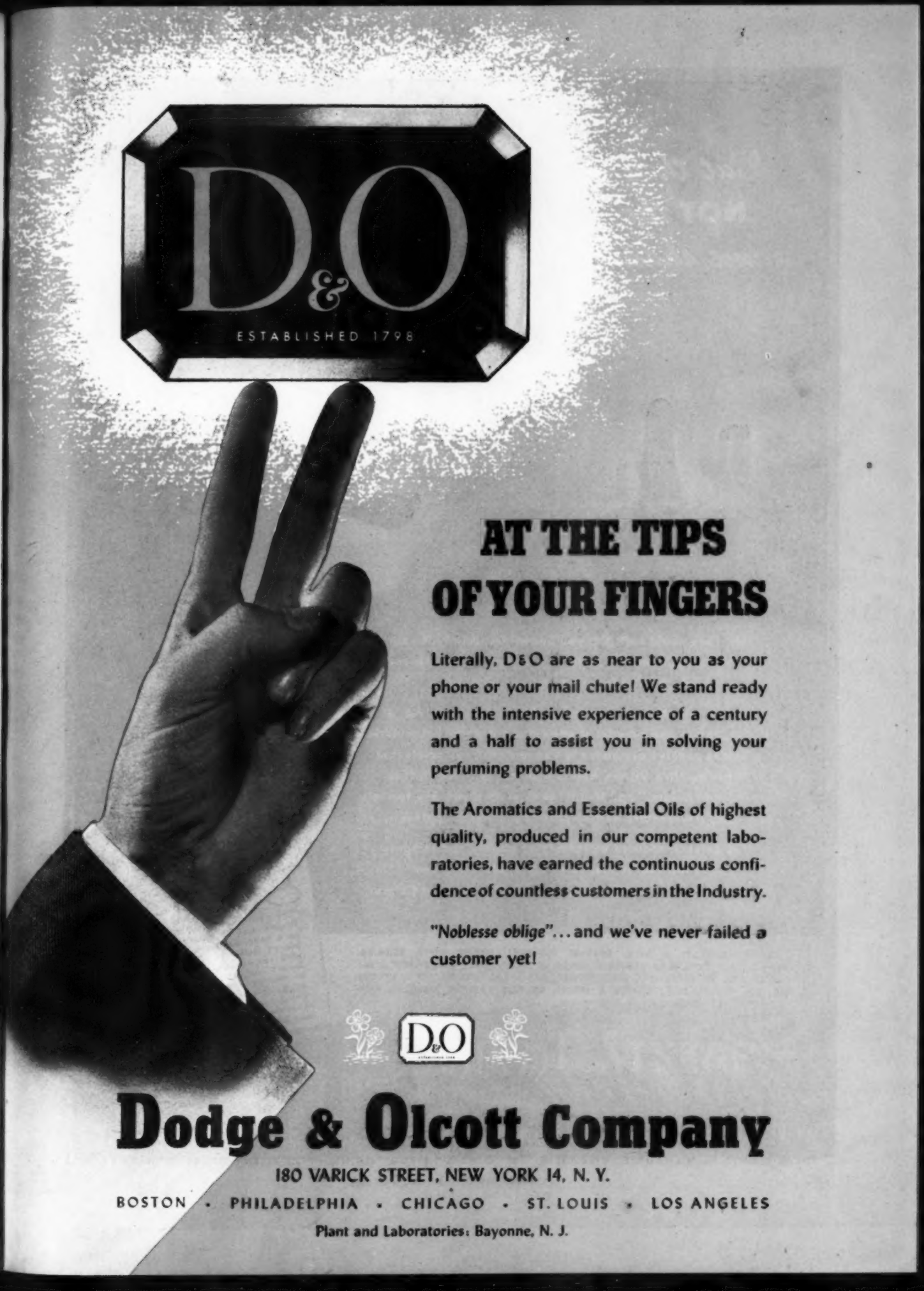

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The Aromatics and Essential Oils of highest quality, produced in our competent laboratories, have earned the continuous confidence of countless customers in the Industry.

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Plant and Laboratories: Bayonne, N. J.

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But not with Kolmar cosmetics. Photometric analysis of lipstick, rouge and powder shades in the Kolmar Laboratories provides positive assurance to you and your customers that, "This month's Victory Red is identical with the lipstick you bought before," and that, "The next time you ask for 'this powder,' it will match perfectly the shade you bought today."

It is on such assured uniformity of quality and integrity of product that repeat sales are made — for you — for the stores that distribute your products — and for Kolmar.

The photometer measures the wave length and intensity of the light rays reflected from color samples placed under it. Comparing these with the charted recordings of wave length and intensity on the original or master sample of powder, lipstick, or rouge provides an infallible check against variations in the dominant hue and brilliance of subsequent batches.

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MENADIONE is a specific prophylactic against hemorrhage of the newborn infant, which is now known to be a type of vitamin K deficiency.

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The bleeding state associated with primary liver disease is controlled, in part, by MENADIONE.

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Bleeding states, which exist in connection with certain intestinal diseases characterized by either a loss of continuity of the intestinal tract or by a disturbance of its absorptive surface, are affected in a specific manner by MENADIONE.

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MENADIONE may be administered parenterally, orally (with or without bile salts), or by inunction. It may be combined in tablets, capsules, ampuls, oil or aqueous solutions, and ointments.

MENADIONE (2-methyl-1,4-naphthoquinone) is the most potent of the synthetic VITAMIN K preparations known at the present time.

MENADIONE possesses all the physiologic properties of natural vitamin K. Over the thick, viscous liquid of natural vitamin K, however, MENADIONE has two outstanding and important advantages: (1) MENADIONE is a solid, crystalline substance much easier to handle than a liquid substance. (2) MENADIONE is economical to use, costing considerably less than vitamin K in its natural form.

Pharmaceutical Department
CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY
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ARMY E NAVY

For alluring odor appeal in your
Floral Bouquet
... consult Albert Verley & Company —a complete, self-contained source of aromatic materials and creative inspiration.

for Variety & Originality

that indefinable something that gives your product distinction...call on Albert Verley & Company for aromatic materials and helpful ideas.

Perhaps it is a difference of viewpoint that makes the service of the House of Albert Verley & Company unique in the field of aromatics.

. . . for we are interested in the success of your odor and of the product in which it plays a part, not merely in selling you so many pounds of this or that material.

Consequently, it has been our goal to offer you a *complete* service—including materials in any desired stage of fabrication up to the finished composition, and counsel to aid in the constant search for new creative ideas.

Moreover, it seemed essential to us that this service should cover all the major classifications of odors, not just a few specialty items. (Illustrated are just a few items from just one classification—floral bouquets.)

It is from this viewpoint that we would like to have the privilege of helping you now, to develop odors that may assure you of a competitive advantage in your post-war merchandise.

Consult us in confidence regarding your post-war odor requirements. Act now—for successful development work is one of those things for which there is never quite enough time.

Materials

for Floral Bouquets—by Albert Verley & Company.

A selection from our handbook, "Aromatics" (see descriptions in section headed "Synthetic Flower Oils and Aromatic Bases"—page 27):

BOUVARDIA "V"	JACENOL
CAMELLIA "V"	JASMIN BLOSSOM "V"
CASSIE FLEUR "V"	LILAS FLEUR "V"
CHEVREFEUILLE "V"	MIMOSA FLEUR "V"
CYCLAMEN FLEUR	MYONAL SUMMUS
DIANTHUS N-100	NEROLI FLEUR "V"
FERN "V"	OEILLET EXTRA
FLORANTEME	ORANGER N-100
GARDENIA N-100	POIS DE SENTEUR "A"
HEATHER "AV"	ROSAM
HELIOTROPAL N-100	TUBEROGENE
HONEYSUCKLE N-100	VIOLETTE FLEUR "V"
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Headquarters for Odor Appeal

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a very effective substitute for
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a trial will convince
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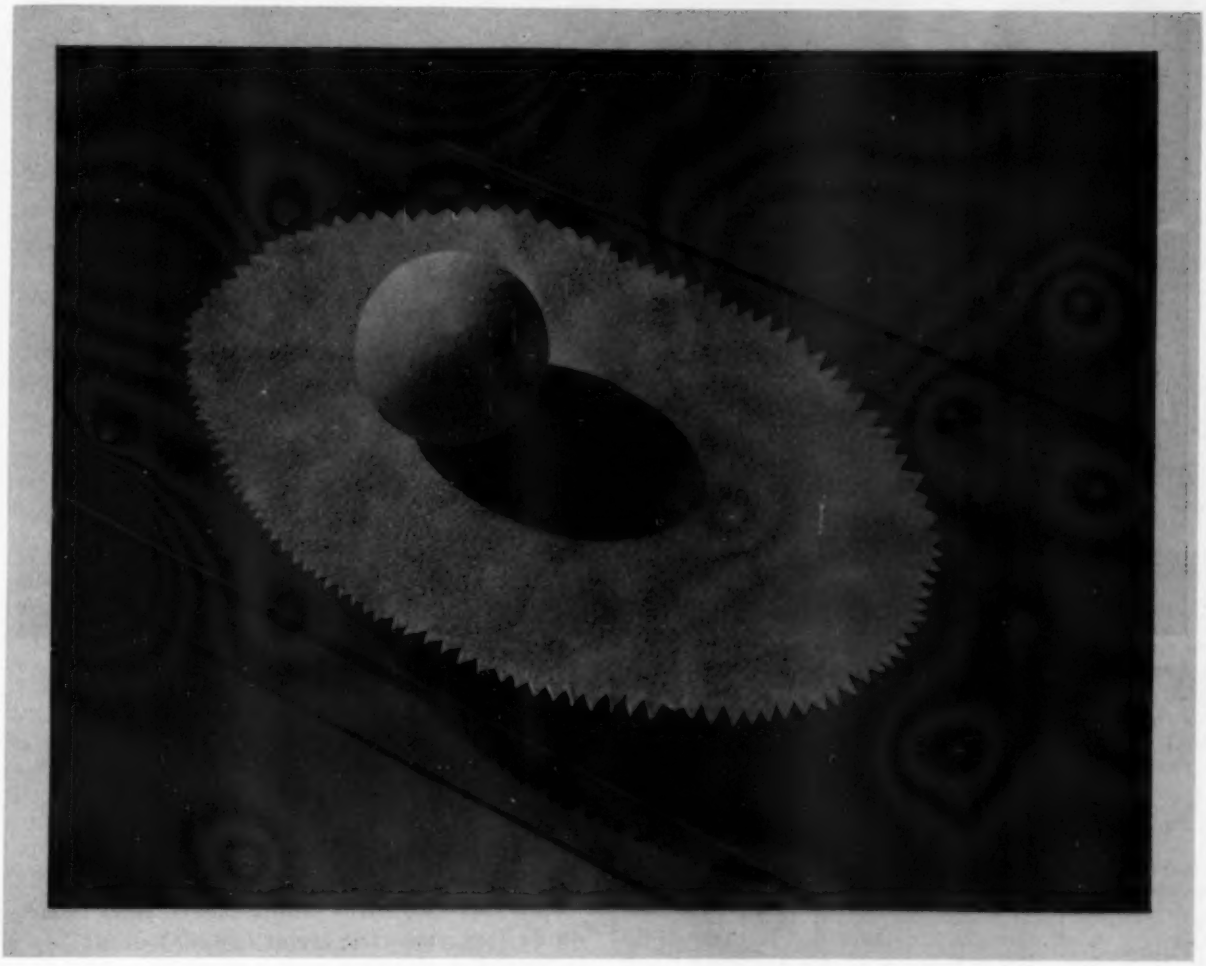
SYMBOL OF AN ERA



IN 1880 women used this powder ball and chamois to powder their noses . . . in 1945 cake make-up is the familiar symbol of feminine vanity. Who knows what postwar cosmetic formula may catch feminine fancy in the future? One thing is certain . . . women want the NEW.

Once war production restrictions are removed, the laboratory developments stimulated by wartime necessity will make available to us many materials unknown before. Postwar planners in our field have already made plans for V-day-plus-1 promotion of a host of products whose very newness will catch public attention and constitute a new form of competition.

Cosmetic chemistry has made great strides in the past three years, and in this progress Allied has played an important role. Once wartime restrictions are lifted these latest discoveries can effect improvement in YOUR cosmetic products. Your postwar plans should encompass these newly developed ideas after the war. Arrangements may be made for a consultation on postwar plans at the Allied Office in the R. C. A. Building in Radio City, New York.

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Private Brand Specialists • Makers of the World's Finest Cosmetics and Toiletries

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The Miracle of Glass

ON HIS RETURN from Egypt with a cargo of natron (a Sodium compound), a Phoenician cook used several blocks of natron to construct a primitive fireplace. Imagine his astonishment when, after the fire was started, he observed the formation of a wondrous, clear material developing in the flames. Frightened by its appearance, the slave Brought this early glass to the galley overseer who immediately accused him of being in league with Satan.

The explanation of this seemingly miraculous discovery is simple. The fire fused the Sodium compound with the surrounding sand—thus producing history's first glass. Since then, Sodium has played an important role in the march of civilization. However, it was not until 1807 that the pure element was isolated by electrolysis of caustic soda—and therewith the door was opened to the vast commercial applications of Sodium in medicine, pharmacy, the photographic and other industries.

For 78 years MALLINCKRODT CHEMICAL WORKS have specialized in the production of Sodium products. Over 200 forms, including Acetate, Benzoate, Bromide, Carbonate, Citrate, Hyposulfite, Iodide, Mandelate, Phosphate, Salicylate, Sulfate, Sulfite and Sulfocarbolate, have been of service to chemical users.

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FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

78 Years of Service to Chemical Users

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"I'm wiring the boss a plan to make pills international. I've got an advertising scheme to cover the 39 nations at the San Francisco conference, all in their own language."

KEEPING POSTED

Amino Acids and Geriatrics

THE opinion of Dr. Cullen with regard to the future of amino acids should, we believe, bear weight for the very simple reason that certainly Dr. Cullen is not disposed without good reason, to try to curtail the exploitation of drug products. However, the amino acids might well have their place in therapeutics in the field of geriatrics, which is the branch of medical science which treats of the diseases of old age. In fact Dr. Cullen referred to this use for amino acids when he said that "there may be a deficiency of the amino acids when a normal amount cannot be consumed .... under certain conditions as gastro-intestinal diseases or where digestions and assimilations are impaired." This branch of medical science promises to be one of the most important in years to come due to the fact that the medical profession are realizing that the diseases of old age can be largely prevented if aging people, who because of their increasing years take less food or eat more restricted diets, are given the proper food supplements. Also because of the increased life span due to greater control over diseases, the number of aging people who require treatment now constitutes perhaps the largest group requiring intelligent medical treatment.

Treating the Common Cold

SEVENTY per cent of the people of this country treat their own colds, while eight per cent see a doctor immediately, and six per cent try self-treatment first and then see a doctor if necessary, according to a survey made by National Opinion Research Center, University of Denver. The survey is the result of 2,523 confidential interviews made by a trained staff of over 200 interviewers throughout the country. About one person in eight—13 per cent—does nothing, letting the cold run its course. Many of those who treat themselves prefer "good old-fashioned remedies," drinking plenty of water, fruit juices, soda and water, or hot lemonade; they take laxatives; they go to bed; they rub their chests with grease or use mustard plasters. Some recommend honey and onions, turpentine, or coal oil. About an equal number like proprietary medicines; a few prefer whiskey; still others have a favorite prescription.

Evil Lipstick

SENATOR Hubert Brooks, Republican, of Johnson City, Tenn., apparently wants publicity no matter whether it is favorable or unfavorable. For Senator Brooks has introduced into the State Senate a bill which would make the use of lipstick a felony punishable by $10,000 fine and/or 10 years in prison. The Senator, who claims to have introduced the bill because the lipstick is a dangerous instrument for jamming Tennessee courts with divorce cases states that "married men are condemned by their wives upon arriving home with lipstick on their collars and shirts, and courts are flourishing with divorce cases due to evils of lipstick." Of course the Senator doesn't see anything evil about the boys playing around with the gals, he only sees evil in the lipstick which lets the wives know that monkey business has been going on.

Foreign Travel Available

FOREIGN travel is being made available to businessmen in planes of the Army Air Transport Command, Naval Air Transport Service, and War Shipping Administration vessels. Those who wish to travel abroad must file applications with the Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, 25, D. C., or any of its 26 field offices. All applications should state the purpose of the trip and give complete details regarding present and previous connections of the applicant in the foreign area which he wants to visit. Space on military planes may be applied for under the provisions of Executive Order No. 9492, effective January 1, provided the travel will contribute to the war effort or to resumption of economic activities disrupted by war that are necessary for prompt restoration of peacetime conditions. Availability of water transportation will be determined by the same general principles. No air transportation is currently available on foreign routes of Army and Navy planes, and travel for the present will be almost entirely by surface craft. Acceptance of an application is no guarantee that passage will be provided. Travelers will be required to pay for passage. The Executive order does not apply to priorities on civil air lines, and businessmen desiring to go to Latin America should file their applications with private lines.

N.F. Retains 16 Products

THE Committee on National Formulary has reversed itself with regard to sixteen products which were originally scheduled for deletion from N. F. VIII, but which, on reconsideration, will be retained. These products are: Apocynum, Bryonia, Calumba, Caulophyllum, Convallaria, Echinacea, Eupatorium, Extract of Hydrastis, Kola, Lithium Benzoate, Lithium Citrate, Lithium Carbonate, Lithium Salicylate, Monobromated Camphor, Orris Root, Viburnum Opulus.

A Damper on Amino Acids

THE enthusiasm which has been developing among pharmaceutical manufacturers with reference to the amino acids as future large selling drug store items does not seem fully justified in the opinion of Frederick J. Cullen, M. D., who is executive vice-president of the Proprietary Association. In a recent statement Dr. Cullen said:

"During the past few years we have seen come and go many products and so-called treatments, as for example, tablets containing chlorophyll, recommended for anemia. No doubt some of these products and treatments would have been of value if used properly but the statements made concerning their value were not supported by evidence sufficient to warrant their continuation.

"Particularly during the past few months scientific and medical literature has contained many articles discussing amino acids and the part they play in human nutrition which make it clear, in my opinion, that the average American diet contains a sufficient amount of amino acids for normal daily metabolism. But on the other hand it has not been definitely determined which of the amino acids are absolutely essential in the daily metabolism, nor is it known what quantities are essential.

"Vegetables grown in certain types of soil will contain a greater or lesser quantity of minerals depending upon the soil content, but on the other hand it appears that protein substance (the source of amino acids), no matter what its source, will consistently contain, and in relatively the same quantities, all of the essential amino acids. The amino acid content of the protein is not affected by such conditions as, for example, those that affect the mineral content of vegetables.

"Further, it is rather definite that the amino acids are unstable in the form in which they can be administered to the human, and some authorities question the possibility of preparing a stable amino acid preparation that can be administered orally.

"It would appear that the average American diet contains a sufficient amount of amino acids but of course there may be a deficiency in the amino acids when a normal diet cannot be consumed, as, for example, following an operation, under certain conditions as gastro-intestinal diseases or where digestion and assimilation are impaired. Thus far it seems that the only satisfactory method of administering amino acids in such cases is by the intravenous method.

"Therefore, since there are so many unsolved problems, the manufacturer *must* conduct extensive research in order to be able to supply the market with an amino acid preparation that will not fall into the class of those that 'come and go.' "

Soldiers Discover Hair Slickum

DEMAND for dimethyl phthalate, made for the Army to use as an insect repellent, has, in recent months, increased sharply above early Army estimates. Monsanto, who was having a difficult time keeping up with this increased demand, asked the Army how come. The explanation, showing that GI Joe has turned research chemist, is as follows:

"It seems that some soldier, trying to ward off insects, plastered the stuff on his hair. The insects kept their distance, as planned, but GI Joe also learned that dimethyl phthalate would keep his hair in place, drying without residual traces common to many types of hair slickum.

"The result was that word of one soldier's findings went the rounds, that others tried it, and dimethyl phthalate has now gained acceptance as a hair goo—especially in war theatres where hair goo is hard to come by. That's the answer."

Penicillin Pretesting Approved

OPPOSITION on the part of penicillin producers to an amendment to the Food, Drug, and Cosmetic Act requiring the Food and Drug Administration to test all batches of penicillin before its release for administration has been withdrawn. This means that such an amendment will be enacted some time this month. The opposition from the producers was solely because of the time involved, but the FDA assured manufacturers that immediate action will be taken and also that shipments can be made to branch houses pending certification of the material. After all, penicillin has not been broken down to a single chemical of known structure. Therefore it is a natural product upon which bioassay must be performed to determine its potency. Under such conditions, keeping in mind that the product is used principally by injection, a final check by the FDA is not out of line and it may save some manufacturers real headaches.

Dangers of Food Enrichment

WE UNDERSTAND that too much vitamin enrichment of flour has the millers worried. Riboflavin is said to cause the flour beetles to propagate at a more rapid rate. We hope that this will be a warning to those who would try to curtail the drug business by adding certain things to foods. Imagine what headaches they might be up against in the way of propagation if they tried to enrich foods by the use of hormones!

Schieffelin Salesmen Unionized

THE unionization of the salesmen of drug houses continues along its merry way with the salesmen of Schieffelin & Company now organized. This makes the first wholesale house to enter the fold. We are reliably informed that the Frederick Stearns contract has been signed, and that the Winthrop Chemical Company contract is in process of negotiation. We are also told that we were incorrect in our statement of the December issue with reference to a demand made by the Union on Winthrop. The demand was to the effect that no product could be added to the Winthrop line of products or dropped from the line without the consent of the Union. The Union informs us that no such demand was made.

Oral Administration of Penicillin

ORAL administration of penicillin is now made possible by means of a solution of the drug in a digestible oil, such as corn, cottonseed, or peanut oil, encased in a gelatin capsule. This is effective because the fats and oils are not split up in the acids of the stomach but are emulsified and digested in the small intestine. Extensive experiments have been carried out on this form of application by Dr. Raymond L. Libby of Lederle Laboratories. Oral administration of penicillin is desirable for the reason that since the drug is eliminated from the system so rapidly doses must be taken at least every four hours. With the injection method, this means either hospitalization or constant employment of a nurse Unfortunately, the oral method is not likely to be widely used for some time in the future since greater amounts of penicillin are necessary for effect than by the injection method. For a fairly uniform therapeutic blood level for four hours, 90,000 units are necessary, while 25,000 to 40,000 units by intramuscular injection will produce the same result.

Alcohol for Cosmetics

CONDITIONS have such a way of reversing themselves in this war that one can never be too sure of what lies immediately ahead. With another liquor holiday scheduled for January of this year due to over-production of alcohol for military needs, we thought that everything was going to be hunky-dory for alcohol supplies for this industry. As a matter of fact, we told in our December issue of the Government statement that increasing supplies of butadiene coming from petroleum for the production of synthetic rubber were relieving the strain on alcohol supplies. We also figured out from the Government figures that in 1945 there would be a surplus of 78.4 million gallons for civilian use which would be fairly close to civilian requirements.

But now all this is changed for some reason or other. Since the first of the year, alcohol has gone strictly on monthly allocation along with other chemicals. Now no one knows until the fifth or sixth of the month how much alcohol is to be available for that month. The Government has promised to make the allocation known before the first of the month from now on, but one can never tell just how long this will keep up.

Whether a boner was pulled in the statements made at the end of last year or not cannot be determined. However, the reason given for the strain on alcohol supplies is that the petroleum producers are not able to produce butadiene for rubber since all their resources must be devoted to production of high octane gasoline which is in greatly increased demand by the Armed Forces. A rumor is circulating around that the butadiene made from petroleum is not as satisfactory as the butadiene produced from alcohol. If this is true it will mean that alcohol will continue to be scarce for a longer period of time than would otherwise be the case.

Producers of alcohol are not only greatly upset over the monthly allocation method which gives them practically no time to catch up on their distribution and keeps them frightfully busy day and night trying to determine where they stand, but they are also upset over the method in which WPB handles the applications sent to WPB by alcohol users. It seems that when cosmetic, oral antiseptic, and rubbing alcohol consumers send their applications to WPB for their share of the month's allocation, the forms are sent back to the consumers rubber-stamped with instructions for the consumers to see their suppliers. Thus the distribution of the available alcohol for these uses as well as for candy glazes is placed entirely in the alcohol producers' hands. This makes for constant pleading on the part of consumers who feel that they are not getting their share from the suppliers, or who feel that they should get more than their share. There is no such thing as a base period or percentage of base period for these users any more.

Allocation of alcohol for February for rubbing alcohol, oral antiseptics, and candy glazes was approximately one-third of the quantity allocated for these uses during the fourth quarter of 1944, meaning that supplies for the month of February were equal to supplies received during any of the last three months during 1944. However, the amount of alcohol allocated for cosmetics in February was 10 per cent less than the amount allocated during January. What the future holds for alcohol supplies, no one can tell. However, with the sharp increase in orders of practically all things by the Army, alcohol supplies might very likely be curtailed to a greater extent. Under the present outlook, the situation appears very gloomy.

Essential Oils in France

RECENT information from France regarding supplies and prices of some essential oils are interesting. As sweet fennel is the only source of anethol, anise, etc., since the shortage of star anise, it has been in heavy demand. The total production of sweet fennel is from five to seven tons per year, and since resumption of manufacture of anise beverages, the price rose from 3,000 francs to 6,500 francs per kilo, and anethol sold at 9,000 francs per kilo and even 12,000 to 15,000 francs per kilo.

Lavender oil, which sold at 500 francs in 1941, 1,000 francs in 1942, and 2,400 francs in 1943, dropped to 1,000 francs in 1944. Production dropped from 80 to 100 tons before the war to 60 tons, then to 40 to 50 tons, finally to 30 tons for 1943, and 30 tons for 1944. Germany bought quite some lavender, but stocks on hand are about 60 to 70 tons.

Lavandin, which sold at 200 francs in 1941, 600 francs in 1942, and 1,100 francs in 1943, dropped to 350 francs in 1944. Crops were gathered and cultivations have been intensified. The yield has always been good and prices seem high in the face of an unsold crop of at least 120 to 140 tons, and perhaps of 200 tons or more. However, the cultivators prefer to keep the goods as they do not wish to convert any of these things into cash as they are afraid of the value of currency.

Crops of rose and jasmin have decreased. Gathering of jasmin was halted for 15 days at the end of August because of war events. Stocks in Grasse are not very important although everyone kept some stock for resumption of business with New York. However, prices will be quite high in comparison with former values.

Last November the price of neroli oil was 2,700 francs, and that of jasmin was 28,000 francs. The reasons for high prices are given as increasing greed on the part of the flower producers and speculators who fear depreciation of the franc and who are looking for merchandise of value.

Pills for Everything

EVIDENTLY the *Lancet*, British medical journal, only now caught up with Nodoz Awakeners about which many in this country have known for many years. Well the *Lancet* editors read a Nodoz advertisement which said "Contains caffeine as in coffee, just as harmless. Over fifty million used since 1933." And the *Lancet* comments: "Well that's the last gap filled. The pill-eater's day is now complete. Pills to wake him in the morning, pills to make his bowels move, pills to stop them moving, pills before meals to make the stomach secrete, pills after meals to neutralize what it has secreted, pills to buck him up, pills to calm him down, pills to put him to sleep again. And so to bed. And all as harmless as a cup of coffee."

Office of Pharmacal Information

AN OFFICE of Pharmacal Information has been established by the Proprietary Association under the supervision of Dr. Frederick J. Cullen, executive vice-president of the association. The OPI, with the assistance of all officers, directors, and members of the association, is assembling information concerning present operation of and scientific developments in the packaged medicine field for dissemination to physicians, health commissioners, health groups, teachers, retail and wholesale drug associations, and all media of information. News letters will be issued covering research, both within the industry and independently by institutions and others, into proprietary preparations and their ingredients. Also, advances in research and control techniques and equipment will be reported.

Taxable as Cosmetics

COLLECTORS of Internal Revenue have received from the Treasury Department a list of products which are considered taxable as cosmetics or toilet preparations. The list should be considered as merely illustrative and not all-inclusive. In any case where a question of taxability of a product arises, a sample of the product or the quantitative formula with labels and advertising material should be submitted to the Bureau for a ruling.

Products taxable at the 20 per cent on the retail selling price are: After Shave Creams; After Shave Lotions; After Shave Powders; Anti-perspirants; Anointing Oils (for infants or adults); Aromatic Cachous (sen sen and similar aromatic pellets); Astringents (after shave, anti-perspirants, etc.); Baby Oils; Baby Powders; Bandoline; Bath Crystals; Bath Oil (sulfonated oil water softener, usually scented); Bath Milk (wetting agent water softener, usually scented); Bath Powder; Bath Salts (chemical water softener, usually scented); Bay Rum; Beauty Creams, Mask Preparations, etc.; Bleach Creams (including freckle remover); Bleach Lotions (including freckle remover); Body Powders; Breath Sweeteners (except candy, chewing gum, life savers, etc.); Brilliantine; Bubble Baths; Cake Make-up; Cleansing Creams (including those for removing stains from the skin); Cleansing Lotions (including those for removing stains from the skin); Cold Creams; Colognes; Compact Refills; Cosmetic Stocking Preparations; Cuticle Softeners and Removers.

Dandruff Remedies; Dandruff Removers; Deodorants; Depilatories (except abrasive articles); Dusting Powders; Eyebrow Pencils; Eyelash Mascara; Eyeshadows; Eyewashes (only if represented to beautify the eyes); Face Creams; Face Lotions; Face Packs; Face Powders; Finger Wave Lotions; Freckle Removers; Foot Powders; Grease Paints; Glycerine and Rose Water; Hair Bleaches; Hair Dressings; Hair Dyes; Hair Lacquers (sprayed on the hair after shampoo, to reflect light); Hair Lotions; Hair Oils; Hair Pomades; Hair Restoratives; Hair Rinses; Hair Straighteners; Hair Tints; Hair Tonics; Hand Creams; Hand Lotions; Henna.

Lash and Brow Dyes; Lavender Water; Leg Make-up; Lip Pomade (colored or scented); Lipstick; Lipstick Refills; Liquid Lip Color; Liquid Face Powder; Manicure Preparations; Mascara; Massage Creams; Mittens (containing toilet powder); Mustache Wax; Nail Bleaches; Nail Enamels; Nail Enamel Removers; Nail Lacquers; Nail Polishes (paste, powder or liquid); Nail Whitener; Pancake Make-up; Perfumes; Peroxide (of 10 volumes or more); Permanent Waving Creams or Lotions; Petroleum Jelly (if scent or color added); Plucking Creams (for use after plucking hair); Polish Removers (nail polish removers); Pomades for the Hair; Pore Cleansers (other than soap); Protective creams (having toilet claims or used as skin creams or antiperspirants); Powder (including baby, bath, body, dusting, powder base, foot, sachet and talcum); Powder Mitts (containing powder); Rock Salt Bath Crystals; Rose Water and Glycerine; Rouges.

Sachets (containing sachet powder or aroma producing materials); Scalp Lotions (for dry, oily or falling hair, dandruff, mange, etc.); Sen Sen (aromatic cachous); Shampoos (containing 5% or less of soap or saponaceous matter); Shampoos (regardless of soap content, used also to bleach, dye, tint, or add luster to the hair); Skin Bleaches (including freckle remover); Skin Creams; Skin Fresheners; Skin Lotions; Skin Whiteners; Sunburn Preventatives; Suntan Oil; Theatrical Make-up; Toilet Creams; Toilet Lanolin; Toilet Powders (including after shave, baby, bath, body, dusting, foot, sachet and talcum powder); Toilet Water; Vanishing Creams; Vaseline (if scent or color added); Waveset (paste, powder or lotion); Water Softeners (perfumed and having toilet claims); Witch Hazel.

Tariffs and Free Currency

THE U. S. Supreme Court recently decided that the Secretary of the Treasury does not have authority to order customs collectors to compute tariff duties at the official rate of exchange when a free rate is in effect. The case in point was that of woolens imported from Great Britain at the time when there were two rates of exchange because the war outlook was not so bright for Britain. The official rate at that time was $4.035, and the free rate was $3.475138. The free rate was set by the Federal Reserve Bank of New York which has the power of agreeing upon free rates of exchange with banks of foreign countries. In this case the Treasury Department used the official rate to determine the amount of ad valorem duty on the goods.

It appears most likely that this same line of reasoning would apply to other countries in cases in which the Federal Reserve Bank worked out agreements to establish a free rate of exchange as opposed to the official rates agreed upon by the

U. S. Treasury and the treasuries of other countries.

An interesting case of an attempt to assess the ad valorem tariff at the official rate of exchange occurred recently in regard to the importation of natural musk from China. The free rate of Chinese currency being as low as it is due to war conditions, the assessment of duty at the official rate of exchange would have increased the cost to the importer to the point at which he would have had to sell the goods at a serious loss. The Treasury claimed that ad valorem tariffs should be assessed at the market price in the country of origin. Therefore they took the price in the Chinese currency and converted it into dollars at the official rate and assessed the duty against that value. The importer of the musk claimed that there is no market for musk in China,—that no one in that country buys or sells musk for use, and that it is only for expert. The Treasury Department wrote to China and ascertained that this was the fact. Therefore, the value of the musk was the amount actually paid for it in dollars, and the duty was assessed at that value.

Scientists Taking Over?

IN LOOKING around the industry we are impressed with the fact that in at least two of the ethical drug manufacturing companies scientists, rather than former sales executives, head up the companies. It would seem that the owners of these companies feel that the most important thing for a pharmaceutical company to have today is close relationship with the American Medical Association and other medical groups, as well as close relationship with the Food and Drug Administration, and other important groups who in a large way determine the future course of medicine. Pharmaceutical houses have always had medical directors who occupied important positions, usually as vice-presidents. But now it appears that sales direction and other factors important to the success of any pharmaceutical manufacturing house are going to take second place to this important factor of proper relationship with the organizations that have a profound influence on the products which the industry sells. At the present time, these changes are not taking place in the houses which have long been managed by the founders or their descendants, but rather in the houses where changes have had to be made for one reason or another. But nevertheless to us it seems to indicate a trend and we would not be surprised to see more of the same sort of thing occur.

FTC Wants More Money

THE Federal Trade Commission is seeking an increase of $100,000 in the amount of its appropriation for the year. Last year, the same request was made for investigational purposes, but it was finally reduced to $35,000. The Commission states that it wants the $100,000 for study of production and distribution policies and practices of large companies and their effect upon small business; survey of mergers; cost of production and cost of distribution on a number of things; lumber and other building materials, costs, prices, and profits; wholesale bread baking industry; present degree of concentration in industry and of industrial prices and policies and their effect upon trade and commerce; survey of trade association activities.

British Cosmetic Restrictions

IN THE case of firms participating in approved concentration schemes, British cosmetic manufacturers will be allowed during the first six months of 1945 to produce toilet preparations equal to 37.5 per cent of their base period which is the year ended May 31, 1940. Other manufacturers subject to special conditions for controlled goods are allowed to make 16.6 per cent of the goods produced in the base period. This system of licensing is likely to continue without major alterations until the end of the war. The quota discrimination between concentrated and non-concentrated firms has had the result of releasing about 1,000 operatives. During the entire course of the war the cosmetics industry is estimated to have lost 50 per cent of its labor force. Official figures indicate that the industry is producing cosmetics valued at £2,000 per man employed. Before the war Britain imported £250,000 worth of cosmetics and perfumes and exported some £900,000. In 1941 exports were £1,250,000, and it is expected that this figure will be increased after the war. Authorities are now working to see if more packaging material can be made available for cosmetics and perfumes for export. Imports have been virtually discontinued, and even gift packages are now subject to customs duties and British purchase tax.

Penicillin Production Methods

JOHN E. McKEEN, who is general superintendent of Chas. Pfizer & Co., Brooklyn, has been delivering papers on the subject of penicillin and has been giving some information not ordinarily revealed. Last month Mr. McKeen gave a complete reviewal of the penicillin process to the New York Electrical Society. He said that among the many stubborn problems encountered in production was the fact that the fermentation broth has an extremely low concentration of 40 parts of the drug per million parts of water, and is also readily inactivated by enzymes and a multitude of inorganic and organic compounds, under varying conditions. The mold, when grown under optimum conditions and fed a desirable nutrient media, produces penicillin in the fermentation broth within several days.

The first step in the recovery and purification of penicillin consists of removing mycelia from the broth by filtration. Next the penicillin is adsorbed on carbon, and further purification is accomplished by preferentially removing the adsorbed penicillin from the carbon by means of organic solvents. The penicillin is then recovered in a concentrated purified form from the solvents by extraction in suitable equipment with sodium bicarbonate to make the sodium salt. The final solution is sterilized by filtration through a specially designed filter and subsequent steps of filling of the solution into the final serum vial—freezing, drying, under high vacuum, and sealing of the final package are carried out under as nearly sterile conditions as possible.

After the penicillin is produced it must undergo rigid tests to prove that it is pyrogen-free, non-toxic, and sterile. The potency must be determined by several methods of bioassay using microorganisms.

WPB gives the 1944 production of penicillin as 1,600 billion units, valued at $35,000,000, with the prediction that 1945 production will increase two and one-half to three times the 1944 output.

The Supply Problem and Program for ESSENTIAL OILS

By H. L. BROOKS, President, The Toilet Goods Association

Editor's Note:—The article entitled "The Essential Oil Muddle," which appeared in our February issue has proven to be on a controversial subject. The views which we expressed in that article represented the views of a very considerable number of essential oil dealers who are resellers of the goods which they import. Since there are other interested parties who hold a different viewpoint, we are giving here a letter from the Toilet Goods Association, Inc., by Herman L. Brooks, president of the association and president of Coty, Inc., expressing this opposing thought.

While we present this letter in its entirety and without criticism, we would like to call attention to one statement in the ninth paragraph of the letter, which reads: "We also remind you that there is no mention in your article of the recent change in the arrangement with the U. S. Commercial Company whereby importers themselves are permitted to place their orders with suppliers abroad, with the U. S. Commercial Company taking care of the transportation, insurance, payment, license, and any other problems that may arise in order to facilitate the shipments." This change was made after our article was on the press, and so far as we know, this is the first public announcement of it.

Naturally our interests lie in the prosperity of the entire industry and we are heartily for whatever method will get the most oils for the industry in the shortest time. Therefore, if this forum we provide in our pages has aided in the expediting of oils from France to this country, we feel that it has been worth while. Also we wish to state that things are now moving so rapidly that conditions obtaining last month do not necessarily hold true a month later. Changes are apt to occur during the present period almost on a day-to-day basis.

WE HAVE noted with very great surprise the article appearing on page 170 of your February issue. We appreciate, of course, that good journalism would permit you to take any position in this or any other matter which seems to you to be the correct one, but we believe that you will agree that misstatements of fact should not be contained in an article of this kind, and if they do appear, should be corrected at the earliest possible moment.

We were disturbed to find numerous statements in your article which could not in any way be squared with the actual facts. The writer has been a member of the Essential Oil Advisory Committee since last fall, and attended all meetings in connection with the proposed plan to import essential oils. We would therefore seem to be in a favorable position to correct the inaccuracies. We shall cite a few of them.

You state that the essential oil dealers did not desire to have the United States Commercial Company act in their behalf. May we call to your attention the fact that the Essential Oil Dealers Association adopted a Resolution on October 17, 1944, specifically requesting the United States Commercial Company to undertake this work as follows:

"The Essential Oil Dealers Association of America requests the Foreign Economic Administration and the U. S. Commercial Company to assist the importers of essential oils and floral products to purchase those products from France and North Africa, and further requests the Foreign Economic Administration and the U. S. Commercial Company to work out the many technical points connected with the purchase and distribution of those products with the Advisory Committee on Essential Oils appointed by the Foreign Economic Administration."

Shortly thereafter The Toilet Goods Association adopted and forwarded to the U. S. Commercial Company a Resolution which was along somewhat similar lines.

You also mention that the U. S. Commercial Company will pay no attention to the fact that certain producers in France sold their oils through particular houses in this country, etc. It appears that you have overlooked that part of the Purchase Agreement which permits orders to be placed directly with specific houses in France. It is also understood that if such orders cannot be filled, there will be no "shopping around" or other activities on the part of the U. S. Commercial Company inasmuch as it is not authorized to do that.

You state further that the U. S. Commercial Company makes no warranty regarding quality. What you neglected to mention is that this provision was included at the request of the importers. As you are aware, the question of quality of essential oils is technically a very difficult one. Therefore, it was decided to rely on the supplier (designated by the importer) for the guarantee of quality inasmuch as the relationship between the supplier and importer is one of long standing. Furthermore, we must assume that the French supplier wishes to maintain his good will and would not jeopardize his reputation with old customers.

You further criticize severely the terms of the agreement with the U. S. Commercial Company. Surely you must realize that the employment of an agent to do all the things the U. S. Commercial Company will undertake at three per cent (3%) is a reasonable handling charge.

We also remind you that there is no mention in your article of the recent change in the arrangement with the U. S. Commercial Company whereby importers themselves are permitted to place their orders with the suppliers abroad, with the U. S. Commercial Company taking care of the transportation, insurance, payment, license, and any other problems that may arise in order to facilitate the shipments. Anyone who is aware of the conditions that prevail in France at the present time will surely agree that these necessary details could not be arranged by any importer here. This permission to allow agents or companies in this country to place their orders direct is most acceptable, and it indicates a recognition on the part of our Government that the free enterprise system should prevail, instead of a method of group buying under Government supervision.

You have, if you wish, a perfect right to criticize the personnel chosen by the U. S. Commercial Company, but again your facts are far from accurate. It is our suggestion that you really investigate the background of Messrs. Horney and Strauss, after which we are confident that your opinion of them will be much more flattering than that expressed.

What also concerns us in this whole matter is a lack of recognition on your part that supplies of oils in the hands of consumers and in the hands of essential oil dealers have been stretched to the point where it will be but a short time when none of the many types of essential oils will be available here. In view of this, it is important to manufacturers of toilet preparations and to importers of essential oils that such supplies as are available in France get here promptly. For that reason it is our opinion that our Government has offered us a service which should be highly appreciated, for it would be impossible for any firm in this country, big or small, to be able to import by itself.

If the industry can temporarily avail itself (for it has been told repeatedly that it may drop the services of the U. S. Commercial Company whenever it desires) of such an excellent offer of cooperation as has been afforded in this case by the Government, it would seem to us to be extremely short-sighted not to do so. Both in normal times and in war times there have been instances of unfortunate transactions in crude drugs and oils such as the one you mention in the final paragraph of your article. You may recall, however, that after private importers had tried for months to secure stocks of bergamot oil after the liberation of Italy and Sicily, and had completely failed, the Government was able to import practically a year's supply at a satisfactory price, and in a manner which, so far as we have been able to determine, was of benefit not only to consumers but to essential oil dealers as well.

We are amazed that in so important a matter involving the entire essential oil industry, as well as the perfume, cosmetic, and toilet preparations industry, as well as Government agencies, a journalist of your experience would permit so misleading an article to get into print without a most careful and serious check of both the facts of the matter and the possible underlying motives of those who gave you the information. Furthermore, it is distinctly unfair to Government officials who are desirous of being helpful, and who have been understanding and cooperative in every respect.

Since the matter is of such interest to the industry generally, you are at liberty to publish this letter. We are sending copies of it to the Government officials involved.

Foundations for Make-up

By H. HILFER*

THERE seems to be an increasingly greater emphasis being placed on make-up bases. It has been found apparently that the use of a make-up base enhances the appearance to a much greater degree than is possible with the use of face powder and rouge alone. The reason for this seems to lie in the ability of the make-up base to provide a "mat" finish to the skin and thereby make it appear completely flawless. Very obvious defects are not hidden by the usual type of base, but there are preparations available whose specific purpose it is to cover these defects. It is possible, therefore, for an individual to hide scars by the use of these preparations as well as freckles or minor skin eruptions.

The great bulk of women are interested in preparations which would enhance their appearance only, and since they do not possess any scars there is no need to hide any. The cake make-up seems to be the preferred preparation for this purpose. Much has been written about this type of preparation and much more probably will. Generally speaking, it may be described as a highly pigmented powder incorporated in a dehydrated cream. The addition of water by means of a moist applicator allows the formation of a film of cream which has the powder incorporated in it. After application of the film to the face, the water evaporates leaving a film of powder and dried cream. The powder provides the color and the coverage while the dehydrated cream provides a protective film causing the powders to withstand the ravages of perspiration and other external forces. In the formulation of this product attention should, therefore, be paid to suitable provisions against perspiration which is a function of the cream base and against spotty application which is also a function of the cream base.

The method of application is such that after the transfer of the film to the face a suitable drying period should be allowed for proper blending of the film by means of the fingertips or tissues. Too quick drying will cause the film to harden before blending and will therefore leave irregular streaks. Too slow drying will cause the film to remain moist over too long a period of time and therefore make its use objectionable. It would be well to remember that most women do not depend on a make-up base alone but use face powder and rouge in conjunction with it. The drying period of the film should, therefore, be of such duration that the film will dry soon after being blended into the skin, but still there should be no tendency for the film to dry before this is accomplished. The film itself should be able to withstand a fair degree of moisture but should be capable of being removed with soap and water or with cold cream.

The pigments and powders used may be chosen from a wide variety of products. Titanium dioxide or zinc oxide or both may be used to provide the coverage or hiding power to be possessed by the film. Talc, kaolin, and chalk are also generally used as fillers. In the choice of the colors, it is best to confine oneself to those colors which are completely insoluble in water and do not "bleed", since if any of these properties are present, contact with water would cause the presence of the colors to be unduly intensified and change the whole character of the shade. The choice of color for any of the make-up of this type should be limited to the sort of colors described, since the same general qualifications hold true generally.

Cake make-up, though the most popular from a sales standpoint, is not necessarily the only type of foundation make-up which serves the purpose for which it is intended. Another type which has met with good popularity is the oil type. Here the pigments are directly suspended in oils and, therefore, are provided with a better protective film against water. Application is made by transferring a small amount from the fingertips to the skin and then blending it in.

The choice of the oil vehicle seems to be of the utmost importance in the formulation of this product. Care must be taken that the film after application does not appear to be greasy or oily and that it be so thin that its presence is not felt. Generally speaking, vegetable oils are more capable of producing this effect than mineral oils. Unfortunately vegetable oils are also prone to oxidative rancidity. This becomes all the more likely in the liquid make-up base because of the presence of pigments of the iron oxide class which exert a marked catalytic effect in the promotion of oxidative rancidity. The use of vegetable oils is, therefore, not without pitfalls. Petroleum oils, though capable of withstanding the oxidation reaction leading to peroxide formation with a final degradation to compounds which are the cause of rancidity, do not seem to possess the faculty of being capable of forming non-greasy films. Even those of lowest viscosity seem to be oily after ap-

*Associated Distributors, Inc.

plication. Various reasons advanced for this phenomenon point to absorption of a part of the vegetable oil by the skin—which apparently does not happen in the case of mineral oils. Whatever the reason, these are the conditions with which the formulator is confronted. Other materials such as butyl stearate have been proposed and they may undoubtedly help. Butyl stearate, for example, is the ester of a saturated fatty acid and as such is not prone to oxidation leading to rancidity. It has a low viscosity and, therefore, is capable of application in a thin film. However, these esters have an appreciable vapor pressure and may evaporate off on long standing. These facts should be checked before the product is put up for sale. As far as the filler is concerned in the liquid base there is generally a higher percentage of the high covering agents than in the cake make-up. Some of these now on the market contain very little besides the titanium dioxide or zinc ozide and pigments.

More recently there has been a reappearance of another type of make-up base in which the vehicle has been aqueous. This product depends almost completely on the water repellency of the powders incorporated to achieve its purpose. From the standpoint of application it is done in the same manner as with the oil vehicle. Here, however, the vehicle is evaporated off leaving a film of powder. The advantage this offers over face powder is the ability to be applied in a uniform layer not possible in application with a puff.

Another type which has been available for a good while is the base in which the pigments are incorporated into an ointment type of vehicle or into a cream such as a vanishing or a cold cream. The ointment type of base is capable of having incorporated in it a large percentage of filler and pigments and also has the advantage of easy application. Care, however, should be taken that the film is not greasy. To overcome this defect some manufacturers have adopted a cream type of vehicle, where, after application in a thin film and evaporation of the water contained in it, the amount of oil remaining is small enough not to be noticed. The disadvantage in the cream type of base lies in its loss of water due to evaporation on long standing, causing the contents of the jar to be unsightly. This, however, can be overcome by formulation of a better medium. Another defect in the cream is its inability as compared to other vehicles of withstanding the effects of perspiration. The fact that enough emulsifying agent must be present to form a stable cream would make it appear that there would be too much of these same agents present to allow an effective water barrier to be formed by the film. However, all of them make excellent foundation coatings for face powder.

In a comparison of the various make-up bases discussed we should more fully consider the purpose for which they are intended. Cake make-up, for example, is a complete entity within itself, capable of being used without any additional materials such as face powder. The oily type of make-up base, though intended for the same purpose, has fallen a bit short of the mark as is evidenced by one manufacturer's promotion of a powder to be used in conjunction with the oil so that the sheen produced by it may be hidden. The other items

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corporation, and association.

(g) The term "drug" means (1) articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; and (2) articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and (3) articles (other than food) intended to affect the structure or any function of the body of man or other animals; and (4) articles intended for use as a component of any articles specified in clause (1), (2), or (3); but does not include devices or their components, parts, or accessories.

[illegible] when used in para-

Borderline Toiletries

THERE persists and probably will continue to be a tendency to attribute medicinal properties to cosmetics. In other cases these preparations are of such a nature that it is difficult to distinguish between a cosmetic and a drug. Some American manufacturers still do not realize that assigning therapeutic properties brings cosmetics under a different section of the 1938 Food, Drug and Cosmetic Act, than that under which cosmetics are covered. Under this Act a product is a cosmetic when it cleanses, beautifies, promotes attractiveness or alters the appearance of the human body. It is a drug, which is an inclusive term meaning also a pharmaceutical, a medicine or medicament, a therapeutic treatment, a remedy or similar terms, when it is used as a cure, mitigation, treatment or prevention of diseases or affects the structure or function of the body. Cosmetics that claim medicinal properties must be labelled according to the further provisions of the law. If it is a new combination, or uses any new medicinal agent, it must comply with the new drug section of this Act. Since the difference between a cosmetic and a drug may be said to exist at the point where a function of the human body is affected, some products are both cosmetics and drugs under the definitions cited above. This is true of items like anti-perspirants, sunburn and chap creams or lotions that claim healing properties, and dandruff liquids used for scalp ailments.

There have also been cases, on the other hand, where food and medicinal products have been offered and advertised with beauty appeal. An example of a food product being considered a cosmetic occurred sometime ago, even before the passage of the Act, when a brand of yeast was offered as an external preparation for improving the complexion. At that time it was a question of excise taxes on toiletries. In order to make the yeast subject to this tax it was designated as a cosmetic because of its emphasis on the beauty appeal. There are also cases where food suppliers stress the necessity of proper nourishment for personal attractiveness. On borderline products, then, one must be on the alert so as not to slop over and conflict with the various provisions of the Act. If any doubt exists as to claims, legal and technical opinions, as well as those directly from the administrative bodies, or through the trade associations, are very desirable. It must always be borne in mind that regulations regarding an act or law of this kind are usually necessary. Both the act and the regulations, therefore, should be consulted very thoroughly.

In this discussion, it is not desirable nor our purpose to pass judgment upon the efficacy of special cosmetics offered as drugs or external medicines. In glancing through an issue of a daily mid-western newspaper, with a very large circulation, it was noted that the advertisements of department stores featured quite a number of these borderline cosmetics. Among them were found vitamin and hormone creams, colloidal sulfur creams, anti-perspirants, astringents, skin lotions or tonics and dentifrices that smattered from strongly to slightly prejudicial medicinal claims. Since advertising also designates a product as a drug or cosmetic, propaganda material must be carefully watched. In some large organizations, any technical statements regarding products must be passed upon or confirmed by the technical men in the laboratory before they are published. This is a good sound policy which is often overlooked, in many cases, where it could be instituted. It does not seem constructive for certain manufacturers in an industry to continue to injure it by emphasizing the medicinal appeal without due regard to the law. Such a procedure not only antagonizes the regulatory officials but invites criticism from individual medical, dental and technical men, as well as their societies who have large influence in their particular fields.

The Federal Security Agency is on record also against false and misleading names of products. Terms like food, tonic, grower, restorer, name of a particular organ of the body, revitalizer and eradicator, in conjunction with the type of beauty product like cream, powder or lotion, must be avoided. The endorsement of the cosmetic by some profession, method, discovery or foreign creation is not permissible. In other words, it is the best policy to stick closely to the letter of the law and regulations. It does seem more reasonable that if the medicinal appeal is desirable it should be from the standpoint of the prevention of skin ailments by external medicines, rather than by the curing of such disorders. The use of an antiseptic in a deodorant, hair preparation, lotion or skin astringent can be justified far more consistently than the use of a vitamin or

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(i) The term "cosmetic" means (1) articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance, and (2) articles intended for use as a component of any such articles; except that such term shall not include soap.

medicament in a cream. This is especially true if it is labelled honestly and if the claims are based upon competent, scientific facts. There is, of course, nothing new in the idea of germicides in cosmetics, though the germicidal agents used n the past have not resulted in as effective and serviceable preparations as are now available by the use of the newer chemicals.

The discovery of these newer bactericides has resulted in impetus to local application of them directly to the skin. Even ointments containing the sulfa drugs and penicillin are now said to be producing very favorable results against infections of the cuticle. These ointments are placed on the lesions in a high concentration over small areas to obtain more rapid results than with treatments ordinarily obtained. In cases of impetigo, for example, one of the most unsightly facial blemishes, it is said penicillin thus applied completely eradicated the skin disorder within a week and prevented its spread. Since penicillin may be used without serious toxic reactions and may be injected into the muscle, dripped into the vein and inhaled as a spray without harm, it may some day be used in cosmetics because of its beautifying properties, though this is not commendable. Other medicinal, less effective ingredients, however, have been used for just such purposes.

In past years germicidal agents were largely associated with strongly odored chemicals. If they were used for general cleansing purposes they certainly left a strong scent behind them. One of the standing jokes regarding the use of disinfectants was that they were said to be used in homes where messiness prevailed. Coal tars, phenol, cresol, cresylic acids, pine oil, mecurials, oxyquinoline benzoate and sulfate, chloride of lime or other chlorine containing chemicals were and are generally used in this field. Since many of these substances possess generally distasteful smells, they are hardly suitable for use in cosmetics. It is true, however, that phenol or carbolic acid and the cresols in small quantities, have been and are being used to some extent in preparations recommended for toilet use.

The use of germicides in cosmetics has probably been more general in employing them as preservatives for the preparations themselves, rather than for their germicidal action on the skin. Cosmetics, not only during manufacture, but also during use are often exposed to the action of bacteria and fungi. The development of these organisms under favorable conditions of growth, has resulted in spoilage of many types of products. In the past therefore, preservatives have been used in the toilet article industry just as food preservatives like the benzoates have been used to preserve foods. Special benzoate salts and esters, such as sodium tribenzoate and esters of para hydroxy benzoic acid, have been featured and sold in quantity to toilet goods makers. In this field of preservatives, also, cresol derivatives, substituted phenols and isolates from essential oils with some antiseptic value have been freely offered. All of these products have contributed more or less to the shelf life of certain toiletries.

The field of germicides has not stood still in recent years. The tendency has been to use lesser concentrations of germicidal agents having higher phenol coefficients than those most commonly used in the past. The adoption by the U. S. Army and Navy of these newer germicidal agents was rather revolutionary and at first developed new problems in the field of germicides and disinfectants. It was found for example, that the usual method of testing these for their germ killing value or phenol coefficiency fell down in many cases. Some bacteriologists have contended that it was caused by the lower concentration of these killing agents which influences the efficiency, especially against S. Aureus, the pus forming organism usually found on the skin. The fact that the Armed Forces have continued to use such germicides which are made in more concentrated germicidal strength, as to phenol coefficiency, indicates that they are working satisfactorily and with little irritation to the skin.

One of the newer germicides which has attracted much attention quite recently, is the series of quaternary ammonium compounds. The substituted phenols and substituted methanes have also come favorably to the forefront. Where there is a tendency to assign germicidal properties to specialized toilet preparations, it is very probable that these will find uses in the cosmetic field.

The quaternary ammonium compounds are still

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EUROPEAN

By

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Carbonated Beverages

in Pill, Powder, Tablet or Capsule Form

LIVE carbonated beverages can be prepared for overseas shipment in concentrated pill form to conserve shipping space and provide our fighting forces, particularly those in the tropics, with a soft drink by dissolving a pill, tablet or powder in pure water. The pills are small enough to be easily included in C, K, Jungle or Emergency Ration packages.

It is hoped that these suggestions will result in the production of carbonated beverages in concentrated form, at low cost, which can be included in overseas rations and used by our armed forces in fox holes, planes, PT boats and submarines and by paratroopers, etc., fighting in remote corners of the globe where bottled beverages are inaccessible; also to make palatable the undesirable waters in foreign countries, after chlorination, when a pleasant drink may quench thirst, supply readily assimilable carbohydrates and at the same time raise troop morale.

The methods comprise the following steps: A. Concentration of extracts, syrups and flavoring agents by any of the following different methods: (1) By dehydration—at low temperature, so as not to char or impart a burnt flavor to the beverage. The dehydration process is similar to drying, using either spray or vacuum driers. The air driers may be natural air or forced draft driers, and may be tried experimentally to determine the best end product, which would not alter the soft drink flavor when reconstituted by adding water. The end product is then powdered by crushing. (2) Slow evaporation over a hot water bath for approximately 2 to 3 hours until no more moisture is given off, leaving a thick syrupy mass, with evaporation down to 2/3 of the original volume. (3) a. Slow concentration in hot air oven, of 165° C., for 40 minutes until moisture

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is driven off, leaving a syrupy mass. Both of these methods are then mixed with corn starch or dextrose to required hardness, the carbonating chemicals added, and sugar coated to form a pill or tablet. b. Combination of evaporation by hot water and hot air oven to make a syrupy mass, with which milk sugar, corn starch or dextrose is added to stiffen the consistency. Next the carbonating chemicals are selected and incorporated, with final sugar coating to form a pill.

NOTE: Every commercial extract or syrup has a different evaporation temperature and time, for example, root beer extract has less moisture than a cola drink, but the cola drink has more sugar, which chars if too high and too long a temperature is maintained, leaving an undesirable burnt flavor.

B. Incorporation of chemical agents to liberate carbon dioxide gas by an acid acting on a carbonate. The following representative effervescent formulae may be varied and selection made according to the amount of CO_2, pH or flavor desired in any drink:

1. Sodium Phosphate	**2 grams**
Sodium Bicarbonate	**2 grams**
Syrup Concentrate	**30 grams**
Water Q.S.	**180 ccs.**
	(6 oz. glass)
2. Citric Acid, powdered	**3 grams**
Sodium Bicarbonate	**3 grams**
Dextrose Binder	**3 grams**
Syrup Concentrate	**40 grams**
Water Q.S.	**240 ccs.**
	(8 oz. glass)
3. Sodium and Potassium Tartrate	**1 gram**
Citric Acid	**2 grams**
Sodium Bicarbonate	**2 grams**
Syrup Concentrate	**30 grams**
Water Q.S.	**240 ccs.**
	(8 oz. glass)
Milk Sugar Binder	**2 grams**
pH 7, gas ebolution—2 minutes.	
4. Effervescent Sodium Phosphate, dry	**3 grams**
Corn Starch Binder	**3 grams**
Syrum Concentrate	**30 grams**
Water Q.S.	**180 ccs.**
	(6 oz. glass)
5. Sodium Citrate	**1 gram**
Citric Acid	**2 grams**
Sodium Bicarbonate	**2 grams**
Milk Sugar Binder	**2 grams**
Extract	**30 grams**
Water Q.S.	**180 ccs.**
	(6 oz. glass)
6. Powdered Citric Acid Crystals	**2 grams**
Sodium Bicarbonate	**2 grams**
Corn Starch Binder	**4 grams**
Syrup Concentrate	**30 grams**
Water Q.S.	**180 ccs.**
	(6 oz. glass)
Effervescent time—3 minutes pH 5.7.	
7. Lithium Citrate	**1 part**
Sodium Bicarbonate	**4 parts**

U.S.P. Method: The citric or tartaric acid crystals are powdered before using. Sodium bicarbonate is kept dry. Ingredients are mixed without trituration, adding citric acid last, and placed in a shallow dish and oven heated from 95° to 100° C. until a doughy consistency is reached, then forced through a No. 6 sieve and drying at 50° C.

The amount of extract will vary with the method of concentration used. Binder will be used only if pills or tablets are made. This granular effervescent product is added to the concentrated or dehydrated soft drink syrup, usually a dram of powder to an ounce of syrup, (the amount varies depending on the amount of CO_2 production wanted). By increasing the amount of sodium bicarbonate the pH range can be made more nearly neutral, therefore being less likely to cause gastric disturbances.

C. The carbonated beverage pill can be put up in several forms, depending on the shipping or climatic requirements. (1) Two capsules; one capsule containing the evaporated, concentrated syrup and the other, the effervescent powders. To make the drink, dissolve or empty the capsule containing the evaporated syrup, then add the powder to desired effervescence. (2) The concentrated syrup is mixed with the powder to make a soft doughy pill. Powdered dextrose, milk sugar, or corn starch is added to stiffen its consistency, moulded to desired shape and surrounded with a sugar coating. (Similar to "Chiclets" candy coated chewing gum). (3) A hard tablet made with dehydrated syrup crystals and the effervescent powder. (Similar to Alka-Seltzer). (The hard consistency is obtained by adding sufficient binder, such as powdered sugar, corn starch, dextrose or milk sugar and a little glycerin. (4) The dehydrated crystals of the beverage and the dried powder of the effervescent agent may be put up separately in two containers and a teaspoonful of each added to a glass of water for the desired drink. (5) The effervescent and syrup crystals may be mixed and stored in one bottle or container (dark colored). Two teaspoonsful in six ounces of water will make the carbonated drink. (Similar to Bromo-Seltzer).

Suggestions: (1) Pharmaceutical manufacturers could supply the effervescent agents, the sugar coating or moulding of tablets, and the bottling and packaging, while milk dehydrating plants might produce the dehydrated powder or concentrated syrups and fill vacuum packed cans. (2) Individual tablets or pills for inclusion in "C", "K", Jungle or Emergency Rations may be packed in double cellophane or in little cans. (3) For foreign shipment to hot countries, the bulk product should be packed in dry containers, preferably vacuum packed. (4) Further experiments to ascertain the deterioration and loss of CO_2, carbonic acid, etc., should be carried out to determine the best method of manufacture, considering time, humidity and temperature during shipment.

The list of beverages which can be put up in concentrated form includes: ginger ale, sarsaparilla, root beer, any of the "colas," synthetic fruit drinks such as orange, grape, strawberry, cherry, vanilla or lemon soda, and possibly beer.

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NAIL ENAMEL

By A. ROSENBAUM*

THE nail enamels which fastidious women of today are accustomed to using are a far cry from the original lacquers created to tint the nails. When liquid nail enamel was first introduced its composition was of a very simple nature. The basic vehicle was either of a common nitrocellulose or scrap film composition blended with acetone or solvents of a similar nature. Tints were created by the use of dyes and the resultant application was of a transparent nature. As the industry progressed there arose a demand for an opaque nail polish. With this demand came the problem of developing a product that would retain the pigments, have good wearing qualities, and possess ease of application. Our present-day nail enamels are the answer to all these demands.

The product which is being produced today is a combination of nitrocellulose, resins, flexing agents, solvents and pigments. Just to list the ingredients would make it appear a product of simple formulation, however, the art of producing the product which the

*Durlin Co.

fashionable women of today demand has become a skill that very few lacquer manufacturers have mastered. While nitrocellulose is common to all lacquers, choosing the proper resins, plasticizers, solvents and pigments from all the thousands that are available is quite complicated. The product which the American women of today are accustomed to using is recognized the world over for its fine quality.

In considering the formulation of nail lacquer we must first consider the film forming agent which in nail enamel is predominantly nitrocellulose. The most suitable nitrocellulose is of the one-half second viscosity type. It affords a very high solid content and rather low viscosity. The nitrocellulose must be neutral in order not to disturb the lacquer formulation. Aside from the nitrocellulose there are other film forming components added to the formulation, namely resins which tend to improve the adhesion of the film to the nail, aid in flexibility and in making the film resistant to water and household detergents. In order to give the film proper elasticity or flexibility plasticizers are added. There are two types used namely solid flexing agents such as camphor and special resins and liquid flexing agents such as dibutyl phthalate, castor oil, diethyl phthalate. In a well balanced formulation it is necessary that both types of flexing agents be used. They must be properly balanced in order to obtain a tough rapid drying flexible film.

The solvents are the liquids in the nail enamel that dilute the solid matter and afford a means of conveying the film to the nails by brushing. In choosing the ideal solvents it is necessary to obtain those that are compatible with the solid matter and least offending in odor and reaction to the nail. Solvents must be so blended as to permit an ease of application and proper setting. The ideal solvent combination will permit a surface set of the lacquer within one minute after the polish has been applied to the nails. The combination of the various solvents together with the solid materials mentioned previously results in the obtaining of the clear basic lacquer formulation. To this must be added various colorants to obtain the desired tones. The pigments used for the development of the various shades are necessarily certified in accordance with the Food, Drug and Cosmetic Act. They must be specially dispersed in order to afford good suspension, maximum gloss, an affinity for one another. They must be resistant to light, water and household detergents. They should also be of a non-staining nature. In formulating various colors, white pigments are used to great extent to give opacity. No matter how fine the white pigments may be dispersed they have a tendency to precipitate, however, this is not a detrimental characteristic. To camouflage the settling of the white pigments an iron oxide pigment is used wherever possible. Since iron oxide pigments have a higher specific gravity than any of the other colorants used in the development of the various shades it is only natural that these pigments settle first. Since it is very desirable that the particular iron oxide used in each shade be very close to the finished nail enamel color the precipitation becomes rather unnoticeable.

With the fashion trends of the nail enamel industry lending towards darker shades it has become necessary to incorporate a greater amount of pigment to obtain the desired tones. Since it is well known that high percentages of pigment concentrates in finished nail enamel detract from the wearing qualities of lacquer many of the leading nail polish packagers have been promoting the use of foundation lacquer. They claim that use of this material improves the adhesion of the pigmented nail enamel. The foundation lacquer is in reality the regular clear nail lacquer thinned to approximately one-half the consistency of finished nail enamel. It acts as a binder between the nails and the colored nail enamel film. Some packagers are also promoting a top coat claiming that the use of same seals the nail enamel film to the nail and thus aids in preventing chipping. They also claim that the use of a sealer will hasten the drying of the nail enamel. There are two types of top coat, one is of a lacquer type which is a very fast drying thin lacquer. The solvents used in the manufacture of this material are of a different nature than that incorporated in the usual nail enamel. This is due to the fact that it is not desirable to use solvents in top coat which could attack the pigmented film. Various packagers have recently been experimenting with a top coat which is formulated from oils. This material is applied in the same manner as nail polish. It has a tendency to give the nails an oil coating. It is claimed that not only does the oily top coat speed the drying of nail polish but it also has a tendency to seal in the pigmented lacquer.

Because of the complex problems involved in the production of nail lacquer the majority of nail enamel packagers and distributors depend on experienced bulk producers for their requirements. It is only natural that the packager establish some sort of control on the nail enamel in order to assure a uniform product at all times. Along these lines there are various tests to which the finished nail enamel can be exposed in order to assure a uniform product.

The viscosity of nail enamel has to do with consistency. If the nail enamel is too heavy it will not brush or dry properly. If it is too thin it will probably streak and have poor adhesion. A simple means of checking the viscosity of nail enamel would be on a Ford Cup. In checking viscosity it is necessary to establish a standard temperature for the material. Perhaps the most ideal temperature would be 72° Fahrenheit. After the material has been checked for temperature it is poured into the Ford Cup to the desired level and then released through the aperture. By means of a stop watch one observes how long it takes the material to empty from the cup.

Perhaps the most accurate way to check the uniformity of color is on the finger nails. One can compare the master color standard with various shipments that are received. To check undertone glass slides of approx-

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NASAL PREPARATIONS

By M. A. LESSER

DURING the last few years, ideas on the formulation of nasal preparations have gone through something of a revolution. New knowledge of nasal physiology plus the introduction of new drugs is beginning to eliminate many older types of products formerly employed to relieve the congestion or "stuffiness" of the nose. This symptom, prominent in such conditions as acute or chronic rhinitis, hay fever, asthma, sinusitis and the like, is undoubtedly the most frequent and annoying sign of upper respiratory tract infections.

Under normal conditions the nasal mucous membrane is one of the best protected and yet one of the most fragile structures of the body. Physiologists have indicated that almost a quart of fluid is secreted by the nasal mucosa during a twenty-four-hour period. The beating epithelial cilia, microscopic, hair-like projections, keep this fluid flowing in definite currents so that foreign material, bacteria and other harmful substances are continuously moved from the nasal chambers backwards into the throat and thence expectorated or otherwise eliminated. The activity of the cilia, so important in the normal functioning of the nose may be lessened by such physical conditions as extreme heat or dryness. These structures are also quite susceptible to the action of many drugs and chemicals. Even temporary lessening of ciliary activity is dangerous from the standpoint of resistance to upper respiratory infection. Nonetheless, during a cold or other congested condition of the nasal passages, the cilia still retain their motility and drainage action to a remarkable extent.[1]

Nearly a decade ago, Heatly[3] remarked that the ideal therapeutic aims of local medication in disorders of the upper respiratory tract (e.g. acute rhinitis) are the reduction of nasal congestion, the promotion or restoration of ciliary function and the destruction of pathological organisms. Although attempts to meet this ideal have resulted in a large measure of success, there are many types of nose drops and nasal sprays which fall far short of these standards. As remarked by Fabricant[3] many nose drops still contain an undesirable oily base, while others disregard the importance of ciliary activity in maintaining efficient streaming mucus in the nose. Moreover, many products omit recognition of isotonicity and the desirability of an appropriate pH.

According to this investigator a solution may be said to be isotonic when it exerts exactly the same osmotic pressure as a second fluid with which it is brought in contact. Whenever a solution is applied to the nose, unless that solution is of the same osmotic pressure or is isotonic with the surrounding secretions, an unpleasant irritation often results. Studies have shown that both hypertonic and hypotonic saline solutions cause definite harm to cilia. This finding indicates quite definitely that an isotomic saline solution is the vehicle of choice for drugs to be used in the nose. However, suitable proportions of dextrose are also employed to make nasal solutions isotonic.

There is considerable evidence, some of it dating back several years, which strongly indicates the importance of pH in nasal solutions. In 1938, Burhmester[4] found that a return to normal pH of nasal secretions parallels the clinical improvement in cases of upper respiratory infections. The more recent studies of Fabricant[3, 5, 6] have placed additional emphasis upon the significance of the pH factor as a basis for the treatment of upper respiratory tract infection. He found that the pH of nasal secretions *in situ* during an attack of acute rhinitis or acute rhino-sinusitis or during more active phases of an attack of allergic rhinitis is alkaline. This finding, he remarks, has considerable clinical importance, for those nasal vasoconstrictors or decongestants which can lower the nasal pH from an abnormal alkaline condition to a normal, slightly acid status may perform a valuable function. Conversely, those nasal preparations which raise, enhance or perpetuate an alkaline nasal pH during these rhinologic conditions may prolong an undesirable status of the nasal pH. Hence, the ideal insotonic nasal preparation, insofar as the removal of irritant properties is concerned, is one whose pH is the same as that of normal nasal secretions; namely, between 5.5 and 6.5.

Other authorities, like Proetz[7] and Parkinson[8] have made similar recommendations. Tozer and Arrigoni[9] feel that, in addition, such nasal solutions should be buffered, a condition which, together with the adjustment of tonicity, entirely eliminates the irritant properties of preparations when adjusted to the proper pH levels. Such products, in their opinion, aid materially in the treatment of colds.

A vasoconstrictor, which aids by relieving congestion, is the most important constituent of a nasal preparation. Although many agents have been introduced with claims of superiority, ephedrine still remains the most important of these drugs. As remarked by Goodman and Gilman,[10] in acute coryza, vasomotor rhinitis, acute sinusitis, hay fever, and the like, ephedrine affords considerable symptomatic relief from nasal mucosal congestion and is widely used for this purpose. Its long duration of action and the lack of after-congestion are distinct advantages. After topical application, its vasoconstrictive action is rapid, taking place within a few seconds to a minute, and this action on the mucosal vessels may persist for two hours or more.

Its action on ciliary activity also favors ephedrine. Proetz[11] has shown that in concentrations as high as 3 per cent, ephedrine sulfate does not affect ciliary motility over indefinite periods. In animal experiments, Lierle and Moore[12] demonstrated that similar concentrations of ephedrine not only fail to depress ciliary motility, but under certain circumstances may serve to increase it. Hence it would appear that ephedrine preparations are particularly suitable for topical application to the nose to relieve congestion, maintain the potency of sinus openings, and promote ciliary activity.

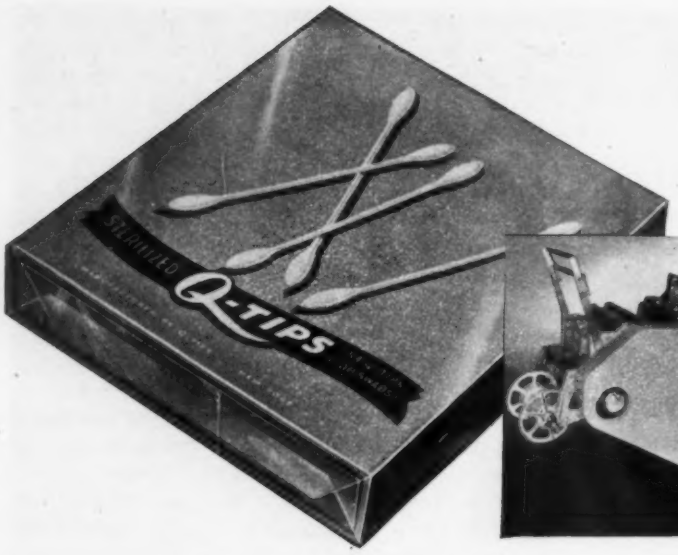
Parkinson,[13] sponsor of the lateral head-low position for administering nasal solutions, has favored the use of ephedrine in a physiologic vehicle. As a drug, ephedrine is remarkably stable and in physiologic solution of sodium chloride it may be sterilized by boiling and if uncontaminated will remain apparently unchanged for months or years. Such a solution is odorless and its presence in the nose is entirely free from sensation. "There is a general impression," he noted, "that ephedrine has a natural sting that must be disguised in some way. This is not so. Stinging, tickling or any other sensation indicates irritation from an unphysiologic vehicle."

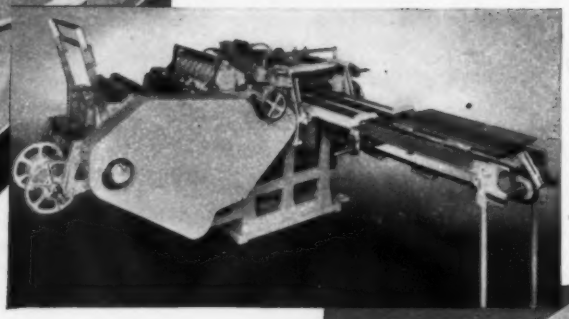
Very much the same view was voiced by Heatly[3] who observed that ephedrine sulfate (from 0.5 to 3 per cent solutions with 1 per cent as the usual strength) in physiologic solution of sodium chloride most closely meets the ideal therapeutic requirements by producing prompt relief of congestion without slowing ciliary activity or destroying the epithelium. Much more recently, Fabricant[3] and Hollender[14] similarly emphasized the outstanding suitability of a preparation of a 1 per cent solution of ephedrine hydrochloride in physiologic solution of sodium chloride.

After setting up specifications for an ideal nasal preparation, Tozer and Arrigoni[9] developed the following isotonic, buffered and preserved intranasal ephedrine sulfate solution to meet these standards:

Ephedrine sulfate	**0.50**	**Gm.**
Potassium sulfate, monobasic	**0.50**	**Gm.**
Sodium phosphate, dibasic	**0.50**	**Gm.**
Potassium chloride	**0.15**	**Gm.**
Sodium chloride	**0.15**	**Gm.**
Dextrose, anhydrous	**0.9969**	**Gm.**
Preserved water, to make	**100.00**	**cc.**

(Continued on page 389)





Why this machine is such a favorite

In meeting wartime wrapping requirements—and in preparation for peacetime production—an ever-growing number of manufacturers are ordering our versatile FA model.

They see in this machine not only the answer to their immediate needs, but the means of providing for future packaging changes or improvements.

The FA machine, like most other models in our line, is extremely adjustable. It will wrap a wide range of sizes, changeover being made by hand-wheel adjustments and the substitution of a few parts. What an advantage that is, should you decide to add new products to your line, or change the size of your present package!

Then too, the FA is adaptable to practically any type of wrapping material. This means you can take advantage of the many new developments that are taking place in the wrapping materials field, thereby obtaining the most effective selling features for your package.

Our line comprises over 70 different models—a machine for every wrapping purpose. And we have more than 30 years of experience to aid you in carrying out your plans for package improvement, or for lowering costs.

We're very busy building machines for priority needs—but not too busy to study your present or postwar requirements.

Phone or write our nearest office.

Some of the many products that are wrapped on our machines

PACKAGE MACHINERY COMPANY • Springfield 7, Mass.

30 Church St., New York 7 • 111 W. Washington St., Chicago 2
101 W. Prospect Ave., Cleveland 15 • 443 S. San Pedro St., Los Angeles 13
32 Front St., W., Toronto 1

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

Packaging and Selling

Post-War Plastic Packaging

The report of the Toilet Goods Association's Committee on Post-war Packaging, of which A. H. Bergmann was chairman, has been released and, while it does a comprehensive job on all of the groups of packaging materials used by this industry, the section on plastics will undoubtedly prove most useful to most people. There is not the space to reproduce it in full here but briefly it gives this information.

Phenol Formaldehyde. Will be available in limitless quantities. Price reduction not in sight. Improvements in material and molding technique, however, will permit economical production. Color limited to darker shades.

Urea Formaldehyde Compound. Some improvement in shock-resistant qualities. Price reductions will be slight. Important for beautiful pastel colors and hardness, which makes it good for those applications requiring threaded or fitted parts.

Polystyrene. Should bear close watching. Two price reductions and more expected. Improvements expected in coloration and shock-resistant qualities. Considerable advance has been made which will permit the use of plastic bottle-shaped containers wherever price is not governing factor. Crystal clarity may be expected and material will be available also in sheet, rod and tube form.

Methylmethacrylate. Some post-war price reduction indicated. Will be available in transparent colors as well as crystal-type. Can be readily dyed so items could be tinted as needed.

Cellulose Acetate. May be some reductions in cost. Where stability and resistance to atmospheric conditions are essential, it is recommended that the ethyl cellulose or the butyrate be specified.

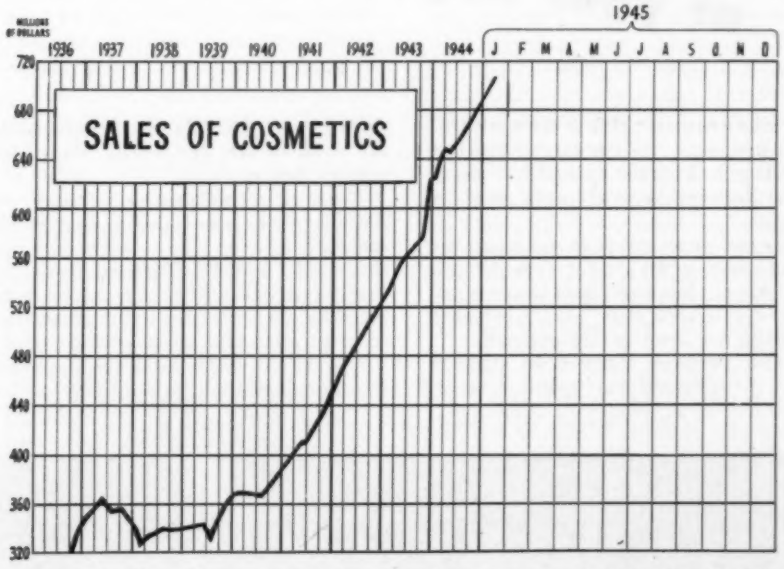
Nylon. Will mold well in thin-wall sections and will be available in co'ors. However, present compounds are tricky to mold and the ultimate part does not have good moisture-resistance. Improvements are promised but price is high.

Cast Phenolics. It is quite possible that through automatic screw machine techniques this material with its beautiful colors might be easily adapted for packaging purposes wherever volume warrants the set-up charges.

Polyethylene. Expensive but should be available in colors of exceptional brilliance. Flexible at room temperature. Requires careful molding. Blowing into odd and unusual shapes is also a possibility.

Vinylite. Has toughness, rigidity, rather low moisture-absorption and is resistant to alcohol and almost every chemical used in cosmetics. Some price readjustment is likely. May replace other thermo-plastic compounds where resistance to moisture and chemicals is important. Available in a wide range of colors and fairly transparent finish.

Film-Impregnated Wood. Recommended especially for men's lines. Instead of turning a solid piece of wood in order to make a shaving bowl a unit formed of film-impregnated sheets of wood might prove very attractive. Striking inlaid effects have also been developed.



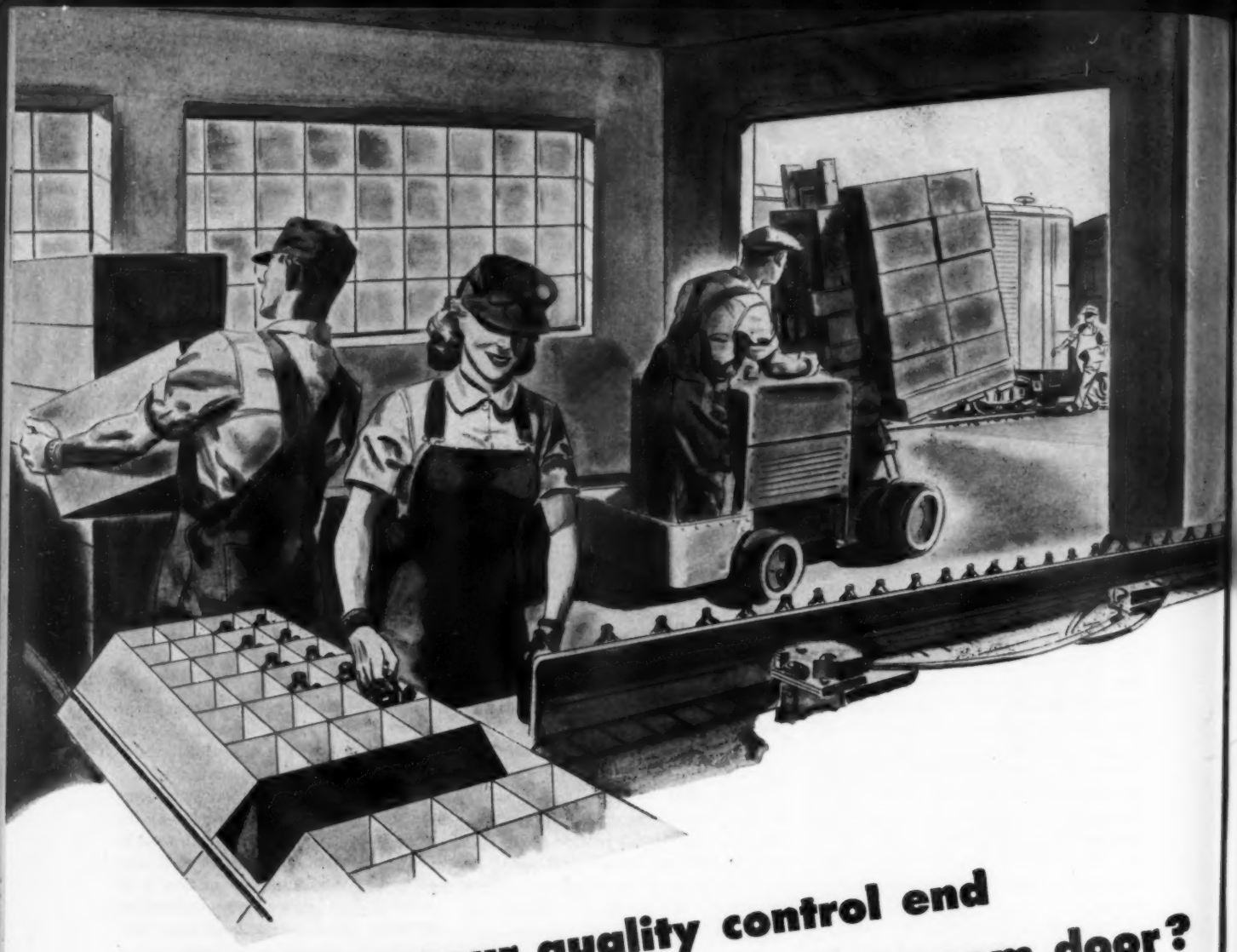
Retail sales of cosmetics for the twelve months ended with December totaled $707,449,000. This compares with $682,270,000 for the twelve-month period ending with November, and with $621,861,000 for the twelve months ending with December 1943.

Telephone Selling

We've heard a good many stories in our time of the big things which are possible when you get a good telephone staff in a retail account to go to work on your product. Recently we've heard one that tops them all. (This is the signal for everyone within hearing to jump on us with a taller tale.)

However, in Famous-Barr Co., St. Louis, where Al Buchhold is buyer, the Kay Daumit company has just had an experience with its Lustre-Creme shampoo, a dollar item, which we'll stack up against anybody's story. In fact Julia Shepard of Famous-Barr's telephone order department says that "sales records for November and December of Kay Daumit products were so outstanding that I have no record of any promotional sales of other merchandise to compare with these two months. I don't believe any other telephone sales organization in the entire country can equal this record."

In November the twenty-five girls in



Does your quality control end at your shipping room door?

Anchor
CONTAINERS and CAPS

PRODUCTS OF
ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO

YOU take a natural pride in the quality of your products... in the careful supervision that begins with the flow of raw materials, that follows through each step of manufacture.

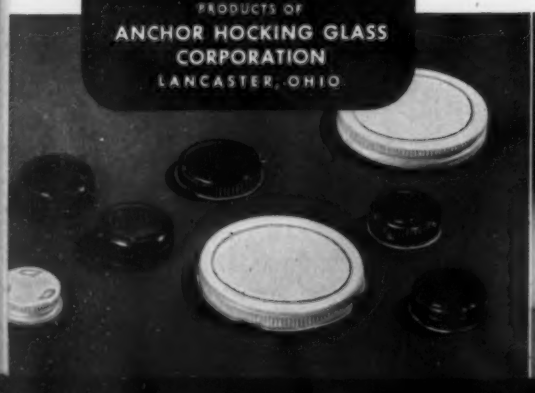
You take every precaution to safeguard the purity and quality of the products you put into your packages... but how about the package itself? Are you sure that your customers are receiving the same quality you pack?

Your fine products deserve an Anchor Package . . . to extend your quality control through the hazards of transportation, at the point of sale and finally, into your customers' homes.

There is a combination of light, strong Anchorglass containers and perfectly matched Anchor Caps which will provide thorough, dependable protection for all your fine products after they leave your hands . . . a combination that will create definite impulse sales and good will for you.

May we add our broad experience to yours in order to find the proper combination?

"Meet Corliss Archer" every Thursday Evening, entire Coast-to-Coast Network CBS.



that department sold a total of $6,039.50, with the five top girls selling, $1404, $906, $571, $450, and $397 respectively. In December total sales were $6,149 with the top five selling $725, $708, $428, $367, and $334, respectively. Incidently the top five were the same each month although not in the same order and as the figures show. the other girls were apparently spurred by the November record to get a larger share of the December business.

Incidently, Kay Daumit has a good number there in that Lustre-Creme shampoo. We remember that early last year Alice Mathews, buyer at Mandel Bros., Chicago, enthused about the product and what she had been able to do with it. Everything she then predicted for its success has proved out and, although, we'd still like to see it packaged in a tube, and probably Kay Daumit would too, it sure has done alright the way it is.

IMPORTANT P.S. Don't rush to the nearest department store hoping to offer the telephone order department a p.m. on your product unless it's noncompetitive. Any cream, or powder or shampoo won't do. It has to be the only product of its kind, in order to be acceptable to most telephone order departments.

Presenting Carnegie Cosmetics

Hattie Carnegie, well-known designer, has for some time featured perfumes. Her perfume line now includes five fragrances known as 49, 7, 11, Hypnotic and Carnegie Blue. Each fragrance has been concocted with a view to complementing Carnegie costumes. For instance, 49 is to be worn with dazzling costumes; 7 was created for the woman who prefers tailored clothes; 11 is a floral and meant for a light-hearted mood and feminine clothes; Hypnotic is

a mysterious fragrance to be worn with the most dramatic costume, and Carnegie Blue will match the gayest, most care-free mood and casual clothes.

To go a step further, Hattie Carnegie felt it was only logical that she should not only beautify the woman with clothes, millinery, jewelry, and perfume, but also to turn her hand to help the woman acquire even greater personal beauty. With this in mind, she has created a well rounded line of beauty preparations and make-up. The packages are typical of Hattie Carnegie —the Carnegie crest embossed on sparkling white surface, and the shape as simple as the line of a Carnegie suit skirt. The skin-care preparations have been kept down to basic necessities. There is one cleansing cream, suited to either dry skin or skin with oily areas— 4 oz. $2.00, 8 oz. $3.50. Miss Carnegie. belongs to the school that believes in using soap and water in combination with a cleansing cream. Thus, she has face soaps, delicately scented with Carnegie Blue fragrance—box of three, $3.00. For brightening the skin, there's Skin Freshener, 6 oz. $1.50, and Astringent for oily skin, 4 oz. $3.00; for lubricating, there is Emollient Cream, 2 oz. $3.50. Hattie Carnegie Cosmetics also feature an Active Ingredient Cream which contains natural estrogenic hormones. This is for the more mature skin, or the exceedingly dry skin— 4 oz. $15. There is an eye cream for the delicate skin around the eyes— ½ oz. $3.00. The make-up sequence begins with Hattie Carnegie powder foundation, 4 oz. $2. Lipstick at $1.75, rouge at $1.25 and face powder retailing at $3.00 for 4 oz. complete the make-up. Also included in the line is a hand and body cream, 8 oz. $3.50, deodorant cream, 2 oz. $2.00; bath soap, box of three $3.00, and hand soap box of three $2.00.

This impressive line-up of preparations seems to indicate that there is nothing frivolous about Hattie Carnegie cosmetics—not just another "name" line which will take little effort to sell—but one which has been carefully planned to help beautify the modern woman.

Reduced Shipping Container Quotas

Although we said last month that a further cut of 10 per cent was expected in shipping containers, it turned out that we were too pessimistic. The amendment to the order as finally issued called for a reduction of only 5 per cent below the quantities used during each calendar quarter of 1944. Although it has nothing to do with determining quotas, this represents 66⅔ per cent of 1942 use for dentifrices, and 57 per cent of 1942 use for cosmetics.

This is a minor miracle of adaptation when you stop to think how sales figures have been soaring while shipping case quotas have been dropping.

Spatula Applicator Outfit

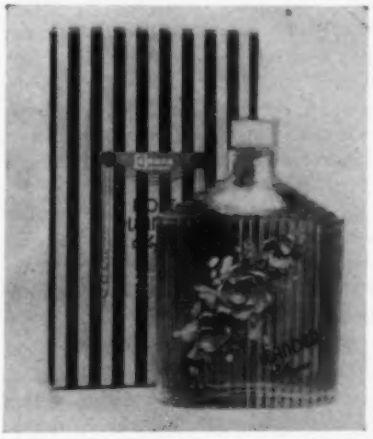
A spatula applicator outfit, with a flat spade-like open end, has been introduced by the Pennsylvania Glass Products Co., Pittsburgh. The spatula glass is attached to the same rubber part that is used in connection with dropper fitments, and is so designed to permit quick and ample application of the medicaments to the injured surface or abrasion. Its design facilitates the application of such preparations as liniments, iodine, mercurochrome, and similar liquids.

Another advantage of this style applicator is that it does away with application by cotton, gauze, and other cloth daubers which bring the fingers into direct contact with the liquid.

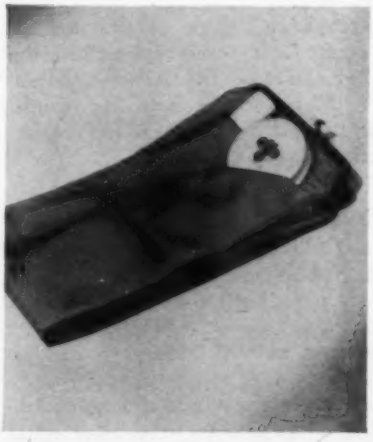
"Take-out" coffee containers.....Plastics, strong and clear
Metal links for cartridge belts.....and convenient cans for beer
ARE ALL MADE BY CONTINENTAL CAN COMPANY
Most people would say "cans" if they were asked what Continental makes.
Products and Divisions of Continental Can Co.
100 E. 42nd St., New York 17, N. Y.
CONTINENTAL PRODUCTS: Metal Containers · Fibre Drums · Paper Containers · Paper Cups · Plastic Products · Crown Caps and Cork Products · Machinery and Equipment.
OPERATING DIVISIONS: The Container Co. Van Wert, Ohio · Keystone Drum Company, Pittsburgh, Pa. · Boothby Fibre Can Division, Roxbury, Mass. · Mono Containers, Newark, N. J. — Plastics Division, Cambridge, Ohio. Bond Crown & Cork Co., Wilmington, Del. Cameron Can Machinery Co., Chicago, Ill.
FOREIGN SUBSIDIARIES: Continental Can Company of Canada, Limited, Sun Life Building, Montreal, Canada · Sociedad Industrial de Cuba, S. A., Havana, Cuba.
NTINENTAL — FOR PACKAGING AND PLASTIC PRODUCTS
EPORT TO THE NATION," every Saturday over CBS coast-to-coast network.

HAVE YOU SEEN our new advertising campaign in leading magazines? Here's our latest page, telling about the different packaging and plastic products now made by us. It also describes our new and expanded facilities—all designed to give you even better service. Watch for these full-color ads in such leading national magazines as *Time*, *Newsweek*, *U. S. News*, *Business Week* and *Fortune*. And keep your eye on Continental and on the Continental trademark, too. The Triple-C stands for one company with one policy—to give you only the very best in quality and service.

Mille Fleurs, Elizabeth Arden's fragrance of many flowers, is now available in the lighter version of perfume, Flower Mist, in the popular pinch bottle, to retail at $3.50 for eight ounces.



Lejeune of Miami, offers Rose Oleander cologne. The bottle is decorated with sea shell flowers in pastel colors, and uses decalcomania labels of red and gold. The box is black and yellow striped.



An attractive wallet especially made up to launch Kathleen Mary Quinlan's new shade "Red Tape." Besides a lipstick and rouge compact, the wallet will hold folding money and small change.

Inexpensive Sachets

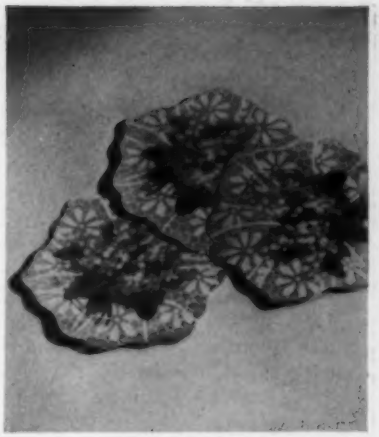
The Trimz Co. Inc., of Chicago, which up to this point seemed to be interested in decal and other types of decorative materials for walls, fixtures, etc., is now introducing Tuck-Aways, a perfumed sachet. Tuck-Aways are dainty paper packets measuring about 3½ inches across and containing flower fragrance in four popular scents—rose, carnation, lilac and gardenia. Each packet is colorfully decorated with flowers matching the fragrance. The packets holding the sachet powder are paper and retail three for 20 cents. At this price and in this form, they may be used liberally in dresser drawers, handkerchief and glove boxes, storage chests, etc. They are also suggested as place cards and favors at bridge or luncheon table to add a touch of color and fragrance. The shipping container in which Tuck-Aways are packed serves also when open as a counter display and dispenser. While these sachets will undoubtedly be sold largely in the five and ten cent stores, the Trimz Co. expects some department store and gift shop distribution.

Make-Up Wallet

Kathleen Mary Quinlan has introduced a new make-up shade called "Red Tape," in an interesting and useful make-up wallet. The wallet was especially made up to launch the new shade and is designed of a fine quality faille in two color combinations—Red Tape red with navy trim or navy with Red-Tape red trim. Folded it measures about four by four inches. It unsnaps to a full eight inch length with full size compartment to carry money. At one end is a deep change purse with sturdy metal clasp. When open, the change purse end holds a lipstick and a compact rouge. An extra pocket at the other end will hold odds and ends. In other words, the Red Tape make-up wallet will hold just about all the fixings with money thrown in. The Red Tape shade is a brilliant red created especially for navy blue. The wallet holding the lipstick and compact rouge retails for $3.75; the lipstick alone is $1.50 and the compact rouge $1. It's been a long time since anyone has done a novelty package of this kind and Kathleen Mary Quinlan's make-up wallet is newsworthy.

Dramatic and Different

While its Pink Lightning is still striking all around in wide advertising, and promotional campaigns, Revlon



The Trimz Co. Inc. has introduced Tuck-Aways, dainty paper packets containing sachet powder in four popular scents. Each packet is colorfully decorated with flowers matching the fragrance.

Horwitz & Duberman have created another new perfume for the junior miss, called "Nine to Five," a spicy light hearted scent that makes a refreshing daytime cologne for young people.

Make-up Pat is Pond's new cake foundation. Pond's theory is that no one formula works well on all shades, so Make-up Pat comes in a light texture for fair complexions and a richer formula for brunettes.

Packaging Forum

By Josephine von Miklos

Since there is little else to do, these days, than sit and wait and perhaps most of all, talk, I find that every time I see someone who is interested in designing, a more or less heated argument ensues. The encouraging thing I find, however, is that cosmetic manufacturers are much more style conscious than they were in former years. While they are, naturally, still engaged in the business of creating packages to sell, they seem to have come to realize that cosmetic packages have grown out of the range of mere fancy goods and are definitely entering the field of decoration. When their prime function as containers is achieved, when, that is, the container itself works properly and is satisfactorily engineered, the question of beauty and design looms as large as it does in interior decor and even in architecture.

As in architecture, the argument is very much between the classic and the modern concepts of design. With the many wonders of mechanical achievements promised us for postwar, function obviously plays a larger part than it did before. Function, in fact, is in itself a modern concept, born of the machine age. We are getting used to flat-top houses and kitchens which look like laboratories; drapes which can be wiped off with a wet cloth and heating units which will be inside walls and under floors. BUT: are we getting used to flat-top perfume bottles and boxes which look like crates? Or, has prettiness appeal, and quaintness? Would we rather have gold foil labels or decoration fired on to our bottles and jars?

The answer to all this lies, we believe, somewhere in between. Tailored packages as well as tailored clothes always have had and always will have definite value as to customer acceptance. The reservation here, however, as it is with clothes, is that a plain package, a simple package must have better form, better color and better workmanship than is primarily needed in more elaborate containers. But there is another point here too. Modern design has shed its labor pains and is beginning to emerge from its objectionable period. Radicalism in design, as in other fields, has great value. It stirs us up, it takes us out of our indolence, it makes us, at least, react. Now, we seem to have grown up some more and realize that warmth and charm do not have to mean cheapness—emotional, spiritual, and in matters of design. We can allow ourselves the luxury of composing with notes taken from many varying periods. We can see the day when a package will look completely as of this day, or even of tomorrow, yet will show the elements which add a softer touch of living.

I was talking, a few days ago with a client from Chicago, who said that "up to now, I and most of the other people in the cosmetic business, have always thought that a dollar package should look like ten dollars. We've made phony bottles, we've dressed up to kill, we have put a lot of gingerbread on everything. Now, I think all this is going to change. People are waking up to real values. When they spend a dollar they want a dollar's WORTH of merchandise. And I want to give it to them. I don't want to save money on my packages; but maybe we can work things out so that I don't have to make my profits on the gingerbread itself. I think the public is going to have more confidence in our products if we think along these lines. There has been all too much talk of how we, in the cosmetic business, sell glass and paper instead of creams and lotions and perfumes and soap."

I think the guy makes a lot of sense. And the answer, of course, will be to design packages that fit into our scheme of living, flat roofs, or peaked roofs, rich man, poor man, or beggar man. Packages that will sell the product and packages that will in themselves add to our pleasure in using them.

comes forth with a new shade called "Russian Sable." This is a dark, very daring make-up color which Revlon has designed for smart women only and it goes without saying that only a very few women will be able to wear it. This is one of the highest styled shades to appear on the fashion horizon for lips and fingertips in a long time. It is a dark red as deep as the fur itself; it is a shade that is dramatic and different. To complement this red-black shade, Revlon also has a Russian Sable face powder which is all right for brunettes but the blondes will have to wait until they are suntanned. Publicity copy reads, "On the right woman Russian Sable is fantastically beautiful and very elegant." Well, maybe so, maybe so. Anyway, it IS a change from PINK!

Headache Statistics

According to "Tide," the U. S. public spent almost $500,000,000 to stock its medicine cabinets in 1944, of which $80,000,000 was for pain relievers. The largest sales in this market were, of course, those of aspirin—$40,000,000 worth according to this source. And one aspirin company accounted for better than 50 per cent of that business. Of the pain relievers, 58 per cent are bought in tablet form, 17 per cent in liquid form, and 14 per cent in ointment form. Greatest use is from headaches, and of 45 per cent of the families buying them for this purpose, 64 per cent buy aspirin. About 40 per cent of the families buy pain relievers for use as cold remedies, 14 per cent use them to relieve muscular pain, and 5 per cent use them for neuralgia.

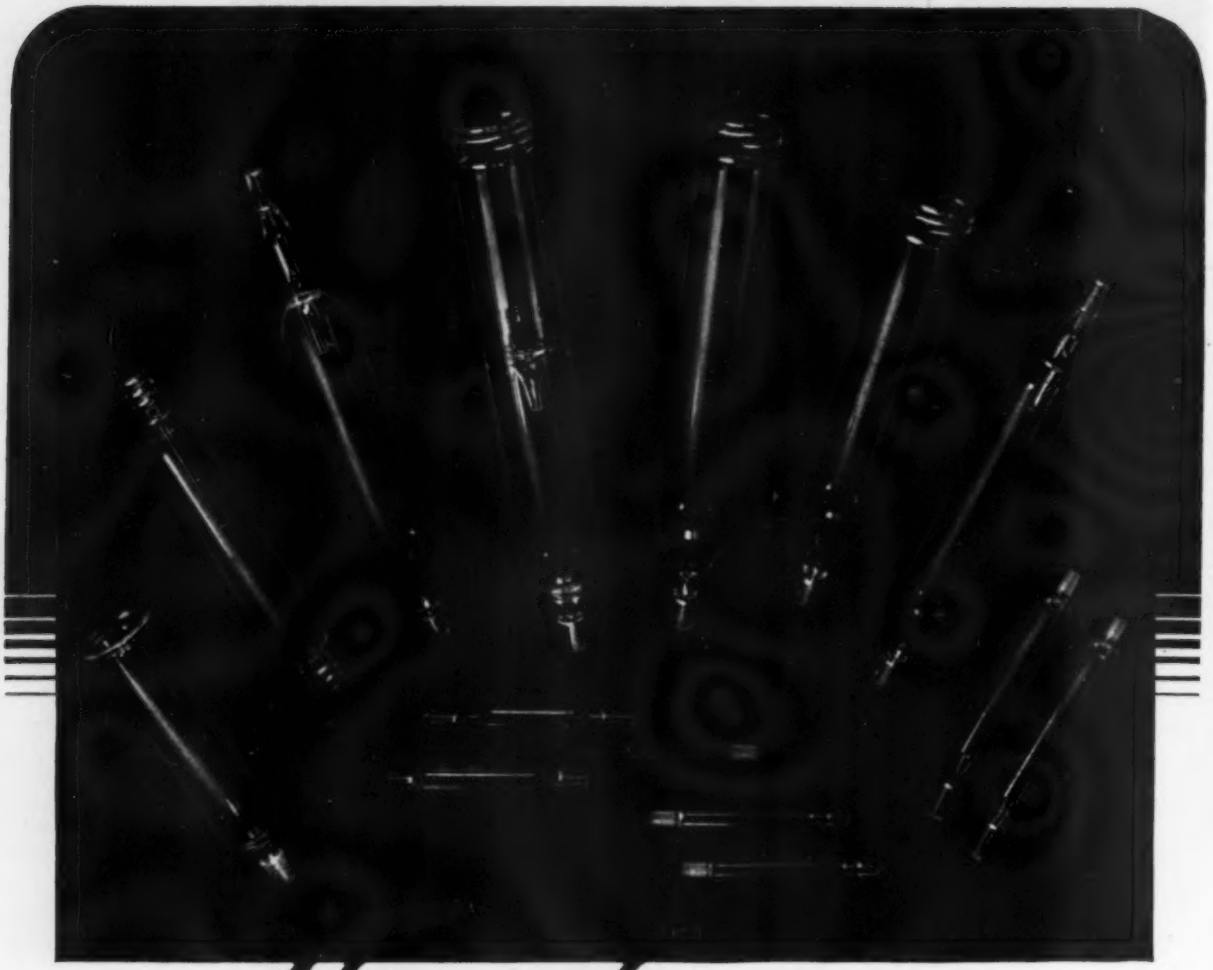
To keep its digestive system tuned up, the U. S. public laid out $30,000,000 last year for alkalizers and digestive aids, continues "Tide." Each month, an average of nearly 4,000,000 families bought such remedies as Alka-Seltzer, Bromo-Seltzer, Bi-So-Dol, Pepto-Bismol, Tums, Sal Hepatica and the like, carried home over 61,000,000 packages during the year. Of the three available types of alkalizers, tablets are the favorite form of consumption: they cop the major share of the business, controlling 57 per cent of the dollar volume; crystals get 22 per cent of the cash receipts, liquids 21 per cent.

Pink Peeve

The "pink" in make-up shades was revived as usual last Spring. Well, spring is a likely time for pretty pink colors, but this pink decided to go into summer, into the fall, far, far into the winter, and it will undoubtedly make spring. It's monotonous! Can't somebody DO something to get all of us out of the pink rut? Let's analyze "pink"—if it is really a true, clear pink shade, it can look heavenly on some people—a few very young with flawless, beautiful com-

SPARKLE

HAZEL-ATLAS G



Through SUCH TUBES

flow whole blood, blood plasma and parenteral solutions which help save lives endangered by wounds or disease. Millions of these tubes, each designed for a specific use, form part of the Kimble contribution to achievement on battle front and home front.

KIMBLE *Glass* CONTAINERS *For Assurance*

• • • *The Visible Guarantee of Invisible Quality* • • •

The Cosmetic Trend

Toilet goods have done surprisingly well during the first weeks of the year compelling buyers to revise their delivery schedules to keep up with rapidly dwindling reserve supplies. Dollar volume was ahead as much as ten per cent in the majority of cases and followed fairly closely the general pattern of the department store market. As a result, manufacturers may experience an early boost in orders and a generally more favorable attitude in the average buyer's approach to his late spring and early summer planning.

If last year's exceptional performance had made some buyers think of cosmetics as being especially favored by war conditions the past weeks have done much to dissipate this idea. If anything, this recent rise has been rather uneventful affecting all branches of the counter evenly excepting, of course, the usual winter items which always run ahead this time of the year.

Serious thinking is being given to what to do with the growing variety of cosmetic products if the need should arise to restrict the space allowance of the cosmetic counters after the war. Many suggestions are made and a way out, no doubt, will be found. However, it stands to reason that the manufacturer who can make a sound contribution to the solution of this problem will stand the best chance of finding his goods displayed while meeting very much reduced competition. Space saving displays packages and sales aid will be at a premium.

One complaint, occasionally heard, is that even the comparatively well assorted men's line falls short of many items which are increasingly bought by men or asked for by women customers when selecting toilet products for a man-relative or friend. Several buyers feel that the average man's line suffers from an excess of gift atmosphere. While it is true that a large proportion of men's cosmetics are bought by women as gifts they feel that the average man is still rather self conscious in his approach to the purchase of a cosmetic. The conspicuous-gift package does not make it easier for him.

plexions and a few not so very young. But we all know that a woman uses a lipstick because she expects the color to "do" something for her, help her brighten up an otherwise drab countenance. A delicate clear pink isn't going to do that for her. Well then we get into the business of intensifying the color and it becomes a blue-pink, then more intensity of color, and we get a fuschia looking shade. Nothing wrong with that—it's a grand complement for certain fashion shades, it's good for evening—makes the teeth look whiter—but how about coming face to face with it in the bright sunlight on Fifth Avenue? A bit startling, and not too flattering to the wearer!

That high fashion shades sell well is a foregone conclusion. When the cosmetic houses who take the lead in advancing new shades in make-up advertise a shade as new and fashion-right, women will buy it. That's all well and good and as it should be, but isn't there such a thing as too much of something good?

Here's to some clear, true shades of red in the not too distant future!

New Formula

Chen Yu is introducing a new nail lacquer remover called "Prefix." Prefix claims to be a lacquer remover and a nail conditioner in one. According to Chen Yu copy Prefix does three things, "It removes lacquer quickly, yet is kind to nails and cuticle. . . It neutralizes the nail surface, thus preparing and conditioning the nails for better application of the lacquer. . . It aids the adhesion of the lacquer to the nail, forming a perfect bond between the two, assuring a smooth application, longer wearing qualities and greater resistance to chipping." Quite a large order for a nail lacquer remover, but it does sound intriguing!

Men's Preparations

This boost from the Armed Forces is one of the reasons why the men's toiletries business—with about five years existence as such—is already a $20,000,000-a-year industry, according to "Collier's." This doesn't apply to the strictly barbershop and drugstore items that men have been using for the past fifty years. Sales in luxury-type toiletries aren't confined solely to the military, either. It's got so that, come Christmas, birthday or anniversary, there's no problem about what to give any male member of the family. For a few bucks and up, you can get a solid-looking package that might contain, in addition to the staple shaving cream and lotion, such items as cologne, an anti-perspirant, hair tonic, talcum, a masculine brand of soap or hair dressing.

Army PXs overseas emphasize the extent of this boom, for among the various items deemed essential to their stock are after-shave lotions, skin lotions (to prevent it from drying out in tropic climates), hair oil, perspiration deodorants, talcum powders, sunburn lotions and lip pomades (to relieve chapping).

Personal appearance and cleanliness mean much more to the boys overseas than to those who take their plumbing for granted. Grooming aids are a link with home.

This male accessory trade is no fancy setup. They're manufactured by men who have spent considerable time and money finding out what the boys go for in an olfactory way. Odors are faint, and emphasize cleanliness and freshness. Even the packaging has been designed to cause no embarrassment.

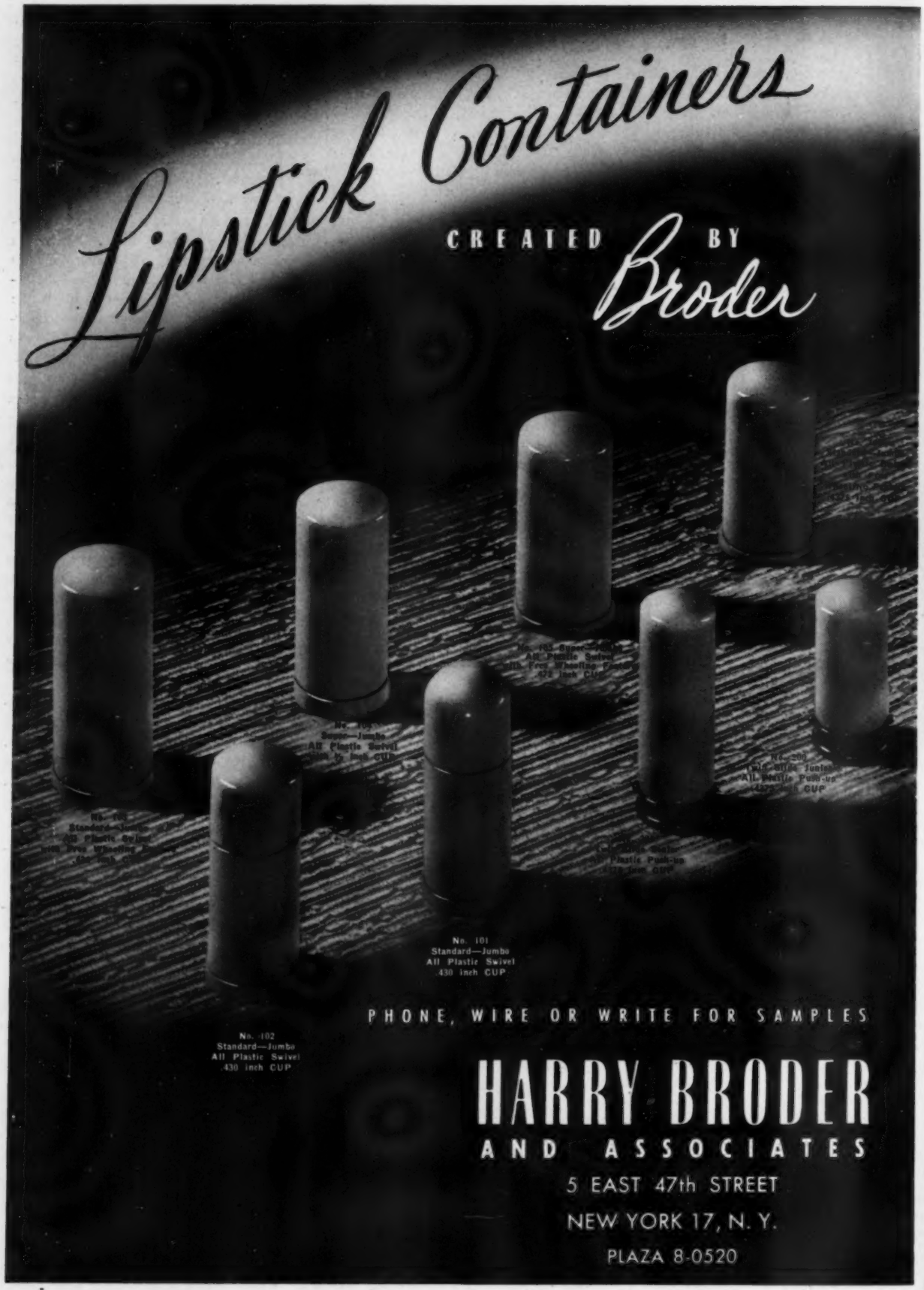
One popular brand, put out in a little stone jug, has been named after a famed Scottish regiment.

Another blatantly masculine packaging job has a mallard duck, ruffed grouse, ringneck pheasant, fighting bass, sailfish, sailboat or horse's head—in natural colors—on crystal-clear bottles.

Revlon Spurs Nurse Recruiting

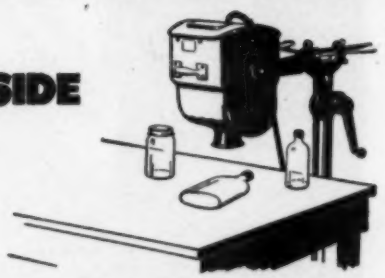
The Revlon Products Corp., in cooperation with the Army Nurse Corps, OWI and War Advertising Council offered free, a Saks Fifth Avenue regulation overcoat, to graduate registered nurses who joined the Army Nurse Corps between February 2 and 15. The appeal tied in with the 44th anniversary of the U. S. Army Nurse Corps and was confined to the greater New York area. The response proved very satisfactory, and while at this point the number of coats to be given is not available because all sections have not been heard from, there will undoubtedly be well over 100 distributed. The offer aroused interest throughout the country and department store buyers asked for similar cooperation in other cities.

Revlon Chilibean nail enamel and Scarlet Slipper lipstick have been selected by the Army Nurse Corps as the shades that look best with the uniform.


Lipstick Containers
CREATED BY
Broder
No. 101
Standard—Jumbo
All Plastic Swivel
.430 inch CUP
No. 102
Standard—Jumbo
All Plastic Swivel
.430 inch CUP
PHONE, WIRE OR WRITE FOR SAMPLES
HARRY BRODER
AND ASSOCIATES
5 EAST 47th STREET
NEW YORK 17, N. Y.
PLAZA 8-0520

THE INSIDE STORY FROM THE OUTSIDE

Pictures like these help research turn out more efficient glass



IT takes more than fine ingredients, rigid production controls, and thorough testing to make top-quality glass containers. The bottle finish, too, must be right, or even the best glass will not make a satisfactory package.

Pictured above you have an example of the care and precision with which Armstrong's Research Laboratories check just one detail of bottle design—the finish. After measurements have been verified to the thousandth of an inch by a special "screen test," the test bottles are then capped . . . and X-rayed!

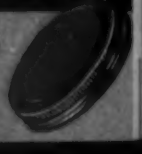
By revealing exactly, and in detail, just how well the closures fit the finish, the resulting pictures guide the designers of Armstrong's glass—and of Armstrong's Molded and Metal Caps, too—not only in the improvement of current models, but also in the designing of even more efficient new ones.

This X-ray examination of glass finishes and caps, although perhaps a minor detail in itself, is another significant example of the thoroughness with which Armstrong's Research Laboratories delve into every phase of glass-making. Their persistent and meticulous work and the equally precise work of everyone connected with the production of Armstrong's glass have built, and are maintaining, Armstrong's reputation for top-quality ware.

For further interesting examples of the care and skill that go into the production of fine glass containers, send for your free copy of Armstrong's illustrated booklet, "Men and Glass." Address Armstrong Cork Company, Glass and Closure Div., 3803 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**



LOOKING INTO THE FUTURE

...hen you think of bottles
think of
Swindell
...achine made and hand made
...lass containers for cosmetics,
drugs and beverages.

SWINDELL BROTHERS, Inc. BALTIMORE, MARYLAND

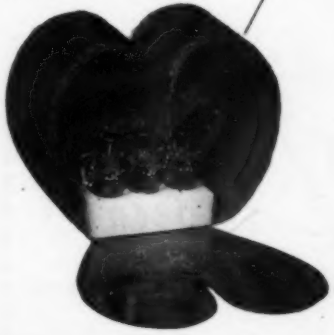
200 FIFTH AVENUE, NEW YORK ROBERTO ORTIZ—HAVANA, CUBA

Star-Gazing . . . Yes!

but, with us it's not just wishful thinking! The package of the future is more than a streamlined dream to us. The post-war revival of competitive selling will rank customer-appeal as the first requisite of every container. Knowing this, Warnercraftsmen are already making use of the newest developments in packaging materials and design in planning distinctive, eye-appealing containers . . . are keeping in touch with the uses and qualities of materials not now available.

Their experience and resourcefulness which in the past have seen success in solving all types of packaging problems, from sturdy cartons to delicate cosmetic boxes, are ready for *new* problems . . . *new* markets.

So . . . if your daydream is winning post-war market acceptance of your product . . . bring your packaging problems to us *now*. Let Warner Brothers' experienced technicians help in making that dream to-morrow's reality.



WARNERCRAFT

"THE FINEST WORD IN PACKAGING"

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

THE WARNER BROTHERS COMPANY

Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.

Now You CAN Get DODGE MILBOSSED-TOP CORKS

News

ATTRACTIVE, SAFE-SEALING CLOSURES IN STANDARD PATTERNS OR SPECIAL DESIGN WITH YOUR NAME OR TRADE MARK . . .

You can again inject sales-promoting individuality into your package, *because Dodge Milbossed-Top Corks are again available in quantity.*

These attractive, colorful closures are safe-sealing and dependable. They please the consumers of your product. Although easily removed and replaced, they keep your package air-tight. Dodge Milbossed-Top Corks are made of uniform, high grade cork with hardwood tops that won't crack or break off. Embossed with your name or trade mark, they have high advertising value . . . on retailers' shelves . . . in consumers' homes.

Dodge Milbossed-Top Corks are available in standard or special patterns in a variety of colors. Dodge customers have been waiting for Milbossed-Top Corks—their first choice in closures—and orders are coming in fast. Although increasing supplies of hard wood are anticipated for 1945, it is advisable to place your order immediately. Write or wire Dodge today.

DODGE CORK COMPANY, INC., LANCASTER, PA.

DODGE CORK *Closures*

Designed to Guard the Integrity of the Contents

On the Beam

Since 1889 we have always sought to develop the art of glass making to the highest practical point. Strict insistence upon precision and accuracy . . . painstaking attention to the most minute details . . . constant checking and re-checking of methods and workmanship . . . these are the principles which have constantly guided Carr-Lowrey operations.

The troubles and difficulties of the wartime years have caused no deviation from this policy. So, if you are quality-minded about glass, consult with us regarding your postwar packaging requirements. You'll find that Carr-Lowrey's methods and standards are still ON THE BEAM.

CARR-LOWREY GLASS CO.

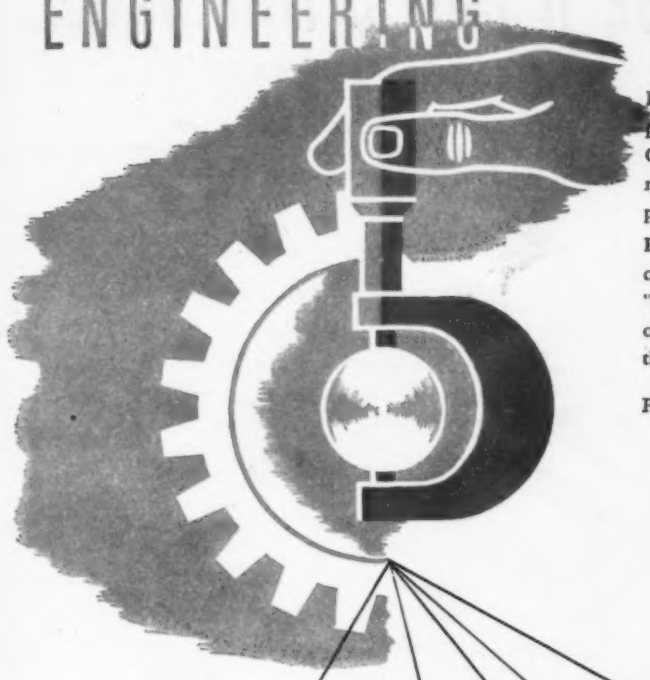
Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 Fifth Avenue • *Chicago Office:* 1502 Merchandise Mart

Distinguish a Brand by Its Cover
CAPS, CLOSURES, ROUGE BOXES, and other specialties for the cosmetic trade in Injection and Compression Molding or fabricated to your specifications.
THE FAMOUS FONTAINE LIPSTICK CONTAINER . . . A swivel-type thermoplastic container with fine features, specially designed for firm, smooth ejection.
SILK SCREEN AND GOLD LEAF PRINTING; also lacquer spraying on plastic, wood, glass, etc., in gold, silver and gay colors. Both flat and round surfaces can be decorated.
FONTAINE
PRODUCTS COMPANY
Art in Plastics
306 EAST 61st STREET • NEW YORK 21

PRECISION BOTTLING

YEAR IN AND YEAR OUT

ENGINEERING

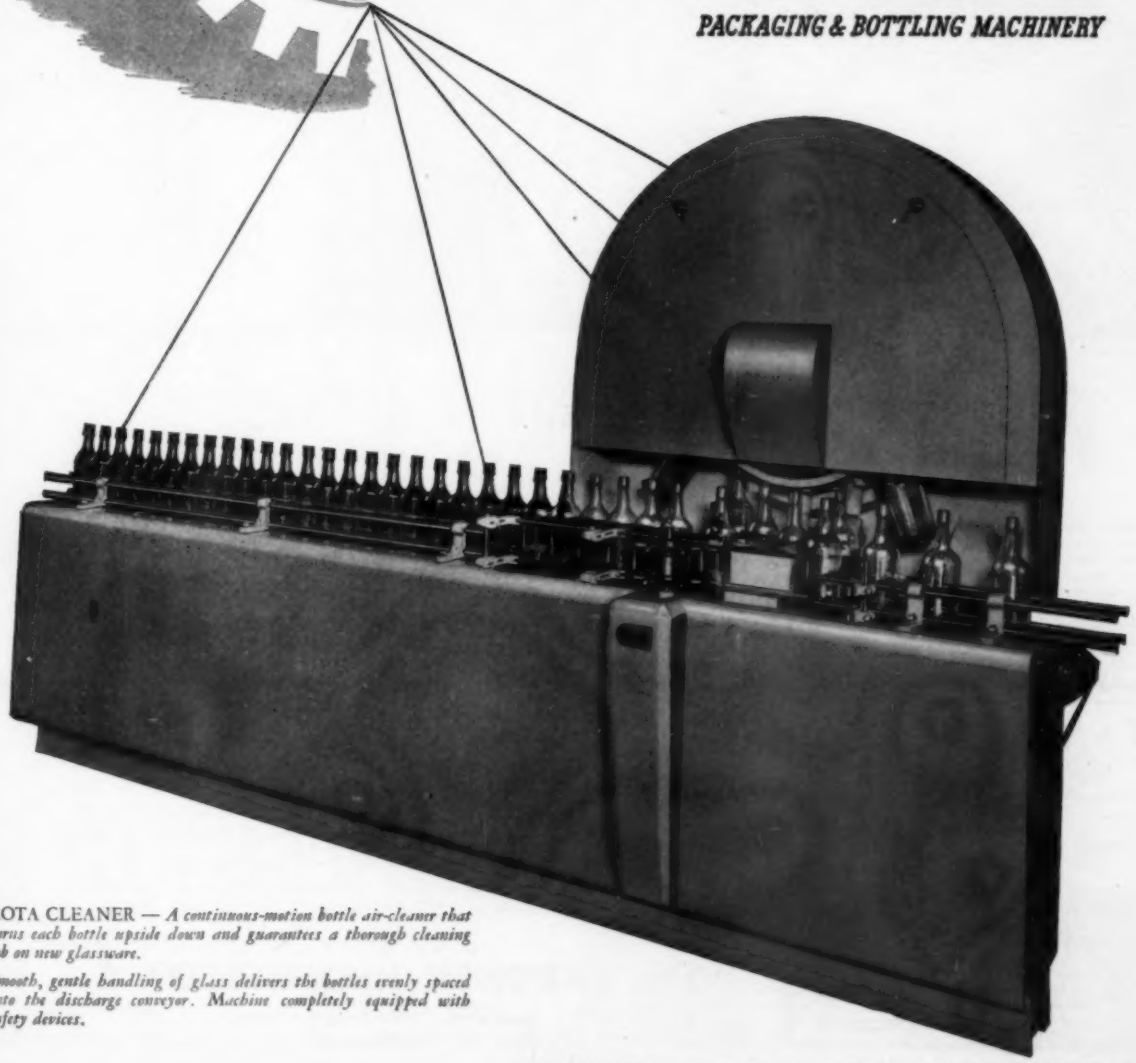


In no small measure the real test for bottling machinery in your plant is its efficiency and performance record over a period of years. One of the secrets of Pneumatic's reputation for building equipment that stands high in this respect is its constant search and application of modern engineering methods and practices.

Proper materials machined to the correct tolerances is part and parcel of every Pneumatic Cleaner, Filler, Capper and Labeler. These "hidden" features, as well as the visible features, are your assurance of continuous top-notch performance when you use Pneumatic bottling equipment.

PNEUMATIC SCALE CORPORATION LIMITED
70 Newport Avenue, North Quincy 71, Mass.
New York • San Francisco • Chicago • Los Angeles

PNEUMATIC
PACKAGING & BOTTLING MACHINERY



ROTA CLEANER — *A continuous-motion bottle air-cleaner that turns each bottle upside down and guarantees a thorough cleaning job on new glassware.*

Smooth, gentle handling of glass delivers the bottles evenly spaced onto the discharge conveyor. Machine completely equipped with safety devices.

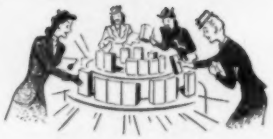
LOWER COST PER CONTAINER

Maybe it isn't a mistake...

IT GIVES ME AN IDEA

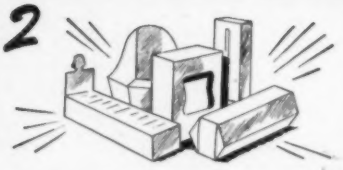
and it's an idea every carton user will want to grab who's looking for extra sales, in tomorrow's open displays and self-serve stores

1



FOR COLOR BRILLIANCE has a lot to do with making a package stand out, catch eyes . . . say, "Take me home." Pick up or impulse sales already add up to over 50% of the volume in thousands of stores. And this help-yourself, reach-for-it trend is headed UP. Tomorrow, your folding carton will need the extra attention it can get—with Coated Lithwite.

2

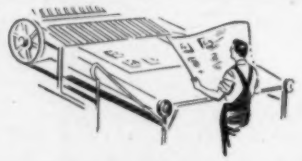


ON COATED LITHWITE CARTONS, colors show up more brilliantly. For the surface of this revolutionary, one-process coated board is unusually white. Uniform. Hard. Smooth. Free from chalkiness. It forms a perfect base for plates and inks. It reproduces product illustrations with a sharp realism that gives a buying urge.

3

PROVED AND IMPROVED for six straight years. Coated Lithwite is the original paperboard made and coated in one continuous, high-speed operation. And its margin of quality leadership has been lengthened by constant refinements. In addition to its finer printing qualities, Coated Lithwite folds and scores without flaking or shattering, takes a tight seal—means fewer jam-ups in filling machines.

4



FINE PRINTING STANDARDS FOR MASS-PRODUCED CARTONS. Add Gardner-Richardson's fine press work, exact methods, skilled plate-making, careful make-ready and thorough checking to the natural advantages of Coated Lithwite—and you can understand why many of America's leading carton users specify G-R Coated Lithwite cartons.

DON'T HESITATE TO CHANGE YOUR PACKAGE. Your competitor won't be afraid to change his. He knows how important a smart, modern, *attract*-ive folding carton will be in tomorrow's open displays and self-serve shelves. Put your problem up to Gardner-Richardson's engineers, designers, merchandising experts, now. While no new orders for *Coated* Lithwite can be filled at this time, G-R skill, know-how and ingenuity is ready to tackle your folding carton problem, come up with an answer that will mean better display, better sales for you, tomorrow. Write, today. Tell us where you'd like help.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

NEW!
UNIQUE!
DISTINCTIVE!

SALES-STIMULATING!

We are happy to announce to the trade that we are prepared to distribute these two newly created, unusual, highly attractive Glass Stoppered Bottles, as shown here, *in one-half ounce and one ounce sizes!* For full particulars, prices, etc., WRITE US AT ONCE!

OTHER ITEMS WE CAN SUPPLY:

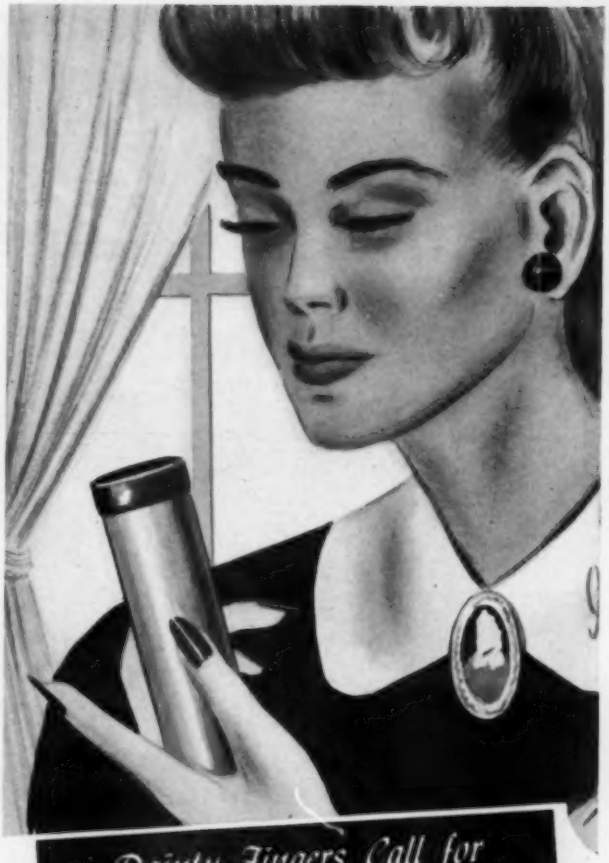
Plastic & Metal Closures for the Cosmetic Trade in a Variety of Designs and Colors

Bottles and Jars in Opal and Flint

Specializing in Enameling and Silk Screening

Samples on Request!

RICHFORD
CORPORATION
221 FOURTH AVE. • NEW YORK 3, N. Y.
P. E. Roehrich, President
AL 4-4958 **AL 4-9656**



Dainty Fingers Call for
LUSTEROID
Vials and Tubes

The package designer's battle is more than half-won when he pleases the fair sex. And LUSTEROID has everything it takes to delight the feminine eye.

- Feather-light weight yet unbreakable.
- Crystal-clear walls for product visibility.
- Colors galore for eye and buy appeal.
- Wide range of easy-to-handle sizes.
- Re-use value appeals to women.

Add LUSTEROID'S economy to these sales features and you have the ideal post-war package.

Sizes from ¼" to 1¼" in diameter, lengths up to 6". Cork, slip-on and screw-cap closures.

Write for post-war details

LUSTEROID CONTAINER CO., INC.

Formerly Lusteroid Division of Sillcocks-Miller Company

Office and Factory
10 W PARKER AVENUE MAPLEWOOD N J
MAILING ADDRESS SOUTH ORANGE N J

finger-tip Ejection—

—a feature available in Plastic Containers.

DRY LUBRICANTS
INSECTICIDES
FUNGICIDES
POWDERS

any of these products can be ehanced by utilizing the *extra* convenience of CLEARSITE resilient containers.

Fitted with a special closure your CLEARSITE container serves as a dispensing medium, ejecting desired quantities by finger-tip pressure on the resilient walls of the CLEARSITE container.

and Clearsite is SHATTERPROOF and SEAMLESS

so you have *extra* protection, too, against accidental breakage, or careless handling.

Do you know of ANY other type of container which will provide this consumer-convenience feature as well as CLEARSITE does?

CELLUPLASTIC CORP.

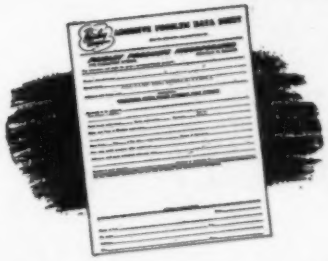
CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

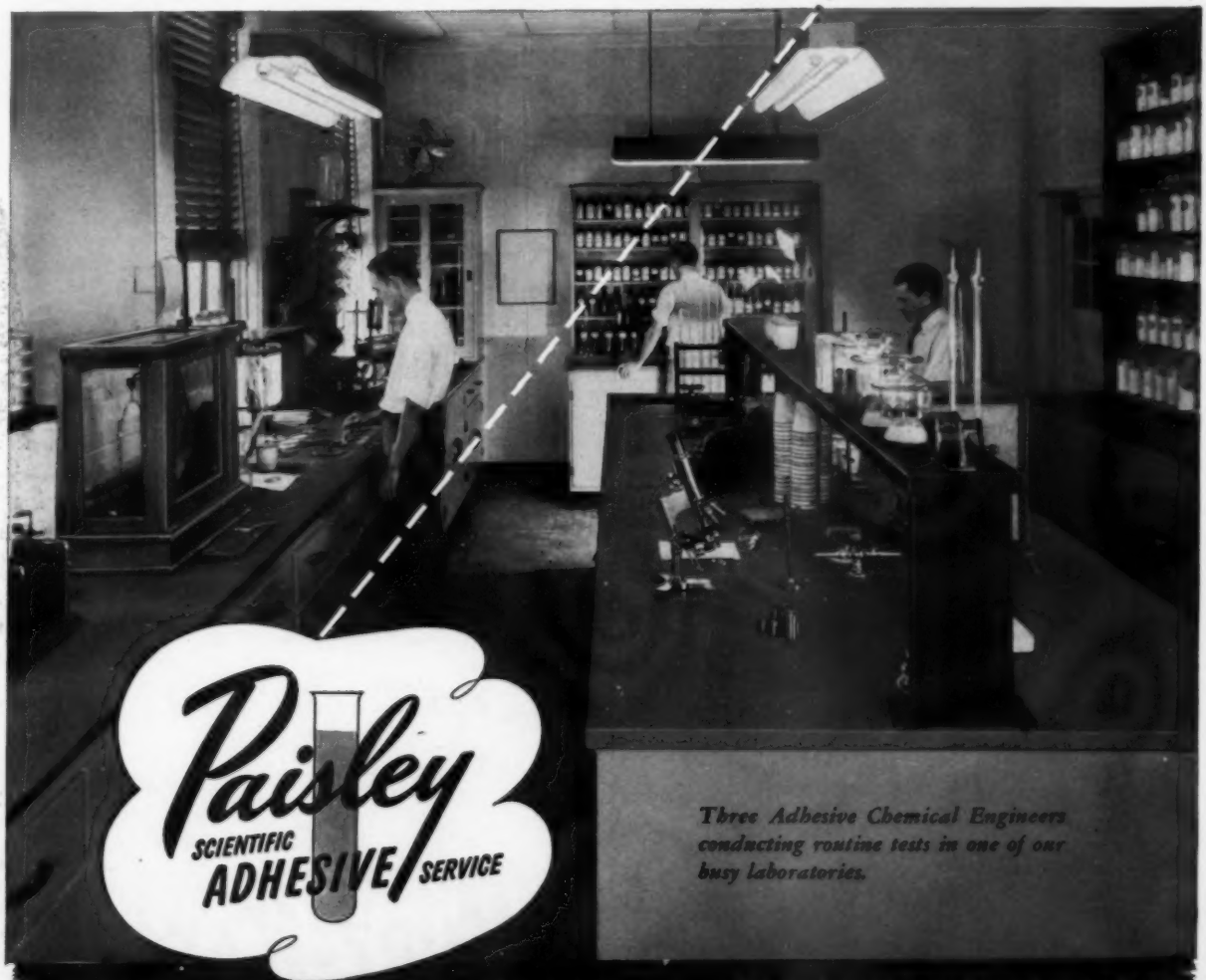
WEST COAST REPRESENTATIVES CONTAINER SERVICE CO., 1266 North Western Avenue, Los Angeles 27, Cal.

DON'T JUST BUY A DRUM OF GLUE.. BUY



SEND FOR *this Adhesive Problem Data Sheet. It's your guide to getting the ONE best, most efficient adhesive for the specific operation you describe. Trial shipment will be sent ON APPROVAL if desired. If you are not entirely satisfied, we'll gladly cancel the invoice. This skilled laboratory service does not obligate you. It's the* SURE . . . *the* modern *way to buy adhesives.*

RULE-OF-THUMB methods no longer apply to the purchase of good Adhesives. The risk is far too great! Speedy, modern, adhesive operations require all the scientific skill and efficiency . . all the facilities and control that Paisley service gives. Instead of delivering "just a drum of glue", Paisley sends you an Adhesive designed to perform the one specific bonding operation with the greatest possible speed and efficiency! Every factor affecting that operation is studied by our capable laboratory staff. The correct formula is then established and periodically checked for viscosity, body, storage life, machinability, emulsion stability, uniformity of color and cohesive spread and other properties. Don't take chances with YOUR production. Stop interruption losses due to faulty Adhesives. Decide NOW, to entrust ALL your Adhesive requirements to this one big reliable source.

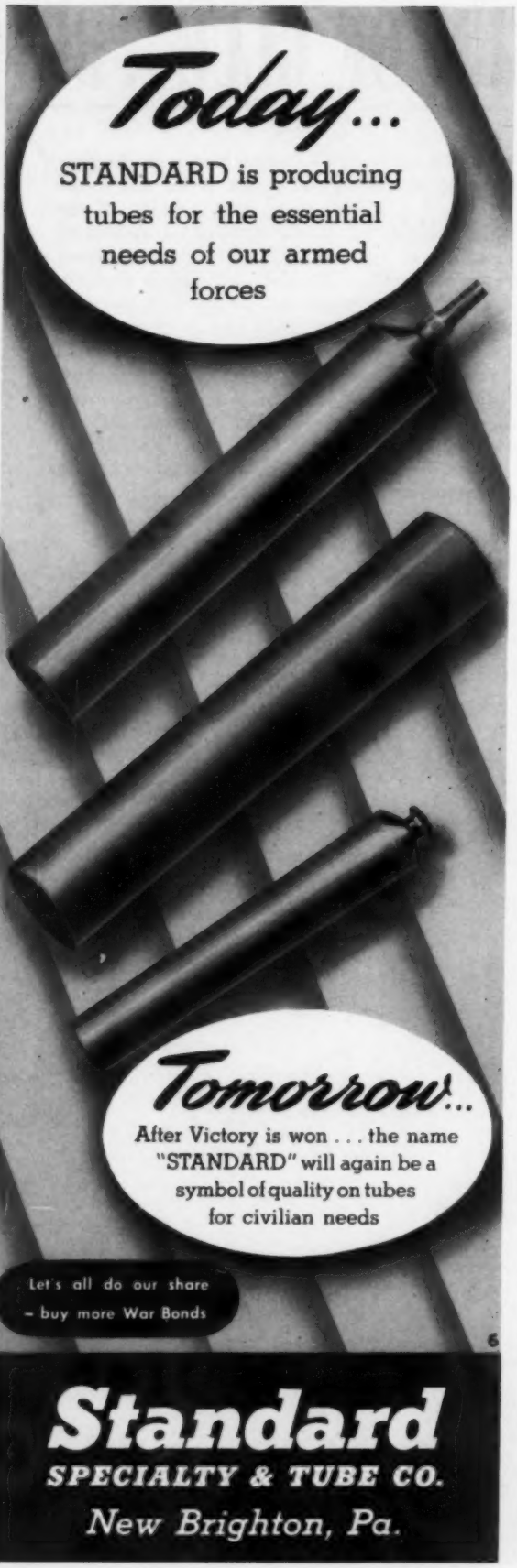


Three Adhesive Chemical Engineers conducting routine tests in one of our busy laboratories.

PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements, and Related Chemical Products

1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.


Today...
STANDARD is producing tubes for the essential needs of our armed forces
Tomorrow...
After Victory is won . . . the name "STANDARD" will again be a symbol of quality on tubes for civilian needs
Let's all do our share – buy more War Bonds

Standard
SPECIALTY & TUBE CO.
New Brighton, Pa.

Plan your Plastics Packaging Now!

All the sales appeal of Plastic Containers . . . alluring colors, convenience and satiny feel . . . will be available some day soon for unlimited use.

Soon, that is, for the manufacturer who realizes the vital importance of his postwar packaging problem . . . and makes his plans today.

As one of the largest and oldest molders of prewar closures, containers and lipstick holders in Plastics, we urge you to remember this. The first packaging items on our presses *tomorrow* will be the ones designed *today*.

Ever since we originated the screw-top Plastic Rouge Box here at Kurz-Kasch, we have specialized in Plastic Packaging for all types of cosmetics . . . for dry rouge, cream rouge, mascara, face powder, and lipstick. Ask today for information on stock molds or special custom jobs.

Meanwhile — don't forget to BUY WAR BONDS!

KURZ-KASCH

For over 25 years Planners and Molders in Plastics

Kurz-Kasch, Inc., 1421 South Broadway, Dayton, Ohio
Branch Sales Offices: New York • Chicago • Detroit • Indianapolis • Los Angeles • Dallas • St. Louis • Toronto, Canada
Export Offices: 89 Broad Street, New York City

BRIDGEPORT...

For the past two years our facilities have been devoted almost exclusively to the production of war materials. We have been fortunate, in that we have been able to handle this work on the same equipment used for our regular peace time products, and, consequently, when material again becomes available for lipstick containers, vanity cases and other metal cosmetic items we will be prepared to start producing our regular line immediately. If you too are planning your post war program, we will be glad to assist you.

THE *BRIDGEPORT* METAL GOODS MFG. CO.

Established 1909

BRIDGEPORT 'PHONE: BRIDGEPORT 3-3125 CONNECTICUT

VANITY CASES • ROUGE CASES • PASTE ROUGE CONTAINERS • LIPSTICK HOLDERS (ALL TYPES) • POWDER BOX COVERS • EYEBROW PENCIL HOLDERS • BOTTLE CAPS • JAR CAPS • METAL NOVELTIES TO ORDER

• SUPPLIERS *to the* DRUG *and* COSMETIC INDUSTRY •

96 DOW CHEMICALS ARE USED BY THE PHARMACEUTICAL INDUSTRY

the MISSING PART may be in Midland

Pharmaceutical

Chemicals

Research is a habit with the pharmaceutical industry—a habit that is paying off today in the rapid development of new drugs and new manufacturing methods. And Dow's service to the industry is constantly growing to keep pace with these developments, for research is a habit with Dow, too.

To help with your problems, Dow offers, first, its unusually complete selection of fine chemicals, including many compounds not generally available . . . second, its staple line of "heavy" chemicals . . . third, the long experience of its highly trained group of research chemists.

Whatever that "missing part" you need to realize your latest project . . . whether it be an intermediate, a finished product, or an idea . . . the Dow consultants will try to help you find it. Your inquiries will be handled promptly and in confidence.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

NEWS...

Bohan Heads Centaur

Joseph D. Bohan has been elected a vice-president of Sterling Drug Inc. in charge of its Centaur Company Division. Mr. Bohan, who was formerly a divisional vice-president, succeeds Harold B. Thomas.

JOSEPH D. BOHAN

He joined Centaur in 1932 as export manager, later becoming general sales manager and vice-president. From 1935 to 1942 he was chairman of the foreign trade section of the Proprietary Association of America, and since then has been chairman of its national relations committee.

Vitamin Institute Meeting

The board of governors of the Institute for Vitamin Research, Incorporated, held its first formal meeting at the Drug and Chemical Club, New York, February 16.

Among the subjects discussed was the name of the institute which was changed from "The Vitamin Research Institute, Incorporated" to "The Institute for Vitamin Research, Incorporated." Chairmen of the various standing committees were appointed as follows: membership, John Gandil of Gelatin Products; legal, Basil O'Connor of O'Connor & Farber; finance, Gerald L. Smith of Gelatin Products; public relations, William H. Berg of The Borden Co.

Definite plans are now being formulated for research on the subject of vitamins which will be under the direction of a chairman of the scientific advisory board.

Moeller with Noville

Alfred H. Moeller, associated with the aromatics business of E. I. Du Pont De Nemours & Co., Inc., from its beginning in 1931, has resigned to establish a partnership with A. G. Nickstadt. The name of the new enterprise is Noville Essential Oil Co. The offices and manufacturing laboratory are at 40 Stone St., New York. Telephone WHitehall 4-4066.

Noville Products Co., Inc., of which Mr. Nickstadt is president, was formed in 1939 and over the past six years has developed an extensive export business in American-made perfume oils. The domestic business will now be expanded under Mr. Moeller's direction.

Schmitz Joins Com. Solvents

Fred W. Schmitz has joined the research staff of Commercial Solvents and will do pilot plant work and process engineering. Mr. Schmitz has a B. S. in chemical engineering from the Missouri School of Mines and Metallurgy and before joining Commercial Solvents Corp. was employed in its chemical engineering department.

Charles A. Stringfellow and Donald Jeffries are new junior engineers in the company's engineering division at Terre Haute. Mr. Stringfellow holds a B. S. degree in chemical engineering from Rose Polytechnic Institute and Mr. Jeffries received his B. S. degree in engineering sciences at Harvard University.

Bridgeport Metal's 35th Year

The Bridgeport Metal Goods Manufacturing Co. has published a very attractive booklet commemorating the thirty-fifth anniversary of the company. The book is in effect a picture history of the company. There are pictures of its war-time products and peace-time products, early and recent pictures of the plant and pictures of the employees.

John Powell Moves

The executive offices of John Powell & Co. have been moved to larger quarters at 1 Park Ave., New York. The export department, techni-sales department and laboratories will remain at the old address, 114 East 32 St. This move enables the company to enlarge its chemical and biological laboratories to twice their former size.

J. T. Baker Appoints Dr. Stevens

Dr. Joseph R. Stevens has been appointed director of organic research by the J. T. Baker Chemical Co., Phillipsburg, N. J. It is the company's plan to have Dr. Stevens direct a research program aimed at the expansion of the company's activities in the organic chemical field.

DR. JOSEPH R. STEVENS

Amer. Home Buys Fort Dodge Serum

Alvin G. Brush, chairman of the board of American Home Products Corp., has announced that the company is negotiating for the acquisition of the Fort Dodge Serum Co., Fort Dodge, Iowa.

The Fort Dodge Serum Co. is a thirty-two year old concern that produces a line of veterinary biologicals and pharmaceuticals. It maintains a number of branches and distributes its products nationally.

Dr. Swain Heads U. S. P.

At a special meeting of the board of trustees of the United States Pharmacopoeial Convention, Dr. Robert L. Swain of New York was elected chairman, to fill the vacancy caused by the death of Dr. E. F. Kelly. Dr. Swain was elected as a member of the board in 1936, and was reelected by the convention at its 1940 meeting in Washington.

Matchan on Visit

Leonard J. Matchan, chairman of the Perfumery and Toilet Preparations Manufacturers' Section of the London Chamber of Commerce, and chairman of the British Cosmetic Export Group, was in this country during February, consulting with various association and industry executives in this country. He

LEONARD MATCHAN

is also European general manager for Max Factor and while here, flew to Hollywood for a visit with the Max Factor executives. Mr. Matchan plans to return to England some time in March.

Medal to Dr. Kyrides

Dr. Lucas P. Kyrides, research director of Monsanto Chemical Company's organic chemicals division, has been awarded the first Midwest Award of the American Chemical Society.

The award, a gold medallion, is to be given each year by the Society's St. Louis section to the individual adjudged most outstanding in the point of "meritorious contribution to the advancement of pure or applied chemistry or chemical education."

The initial presentation was made at a dinner March 5 at which Dr. Kyrides was the principal speaker. He pioneered the development of synthetic rubber in this country, perceiving the possibilities of isoprene, butadiene and dimethyl butadiene. He is also credited with the discovery of a drug, which, until only a few years ago, was regarded as the world's foremost antisyphilitic. At Monsanto, with which he has been associated since 1938, he has made significant contributions to synthetic vanillin, plasticizers, sulfa drugs and "soapless soap," as well as scores of little-known industrial chemicals that are vital to the nation's peacetime or wartime economy.

Legion of Merit to Col Weicker

Colonel Lowell Weicker, executive director of intelligence for the Air Service Command of U.S.S.A.F.E., was presented with the Legion of Merit January 26 in London by Lieut. Gen. Carl Spaatz, commander of the U.S.S.T.A.F.E.

Col. Weicker, who is on leave of absence as president of E. R. Squibb & Sons, won the award for intelligence work for the United States Army Air Forces in the United Kingdom and Russia.

Solon Advanced by Whitehall

F. J. Solon, Jr., has been appointed general manager of the western division of Whitehall Pharmacal Co., a division of American Home Products Corp., it has been announced by Walter Silbersack, executive vice-president and general manager of the parent company. Mr. Solon has been assistant to the vice-president and general manager of the Anacin and Larned units of Whitehall.

F. J. SOLON, JR.

In his new capacity he will direct the administrative, sales, and advertising activities for Whitehall in ten western states, making his headquarters in San Francisco. Mr. Solon has been with American Home Products Corp. since 1941.

Army-Navy E to National Drug

The Biological Laboratories of the National Drug Co., Stroudsburg, Pa., was awarded the Army-Navy "E" at ceremonies held in the Stroudsburg High School auditorium. Since the outbreak of the European war the company has supplied the Red Cross, as well as the French and English governments with medical supplies. Since December 7, 1941, almost the entire output of the laboratories has gone to the armed forces of our government.

Hendy Visits Here

Thomas G. C. Hendy, general manager of Evans Chemicals, Ltd., London, arrived in New York February 5 for a month's stay with Evans Chemetics, Inc. New York. Mr. Hendy is here on liaison work in connection with the post-war development of the European plants of Evans Chemetics, Inc., and

THOMAS G. C. HENDY

their associated companies. While in this country, Mr. Hendy will make arrangements for the manufacture of private-brand cosmetics in England for American companies after the war.

Flying Medal to Frank Huisking

The Army Flying Medal has been awarded posthumously to Frank R. Huisking who was secretary of Conti Products Corp. before joining the army and who was killed in Italy April 18, 1944. The medal was presented to his mother, Mrs. Chas. E. Huisking, at a ceremony at Mitchel Field, February 14.

Di worth Returns to Anchor-Hocking

Major John R. Dilworth, who has been serving with the U. S. Army Air Force for the past two and one-half years, has been relieved of active duty and is returning to an executive position with Anchor-Hocking Glass Co.

Devine Returns to Standard Alcohol

Lt. Col. John E. Devine of the Chemical Warfare Service has been relieved of active duty and has returned to Standard Alcohol Co. as sales manager for the midwestern territory. He succeeds Joseph F. Harrington who has been transferred to the company's New York office. Mr. Devine will make his headquarters in the division office of the company at 75 East Wacker Drive, Chicago 1.

POTASSIUM THIOCYANATE NF

now available! *

Baker's

CHEMICAL FORMULA: . . KSCN

DESCRIPTION: . . . . Colorless, transparent, hygroscopic crystals, odorless and having a saline taste.

ASSAY: . . . . . 99% +

SOLUBILITY: . . . . . 1 gram soluble in .5 cc water at 25° C
1 gram soluble in 12 cc alcohol at 25° C

SPECIAL CHARACTERISTICS: A product of synthesis—with unusually low indices of arsenic, heavy metal and iron impurities.

MEDICINAL USE: . . . . In arterial hypertension

* **AVAILABILITY:** . . . . Pharmaceutical manufacturers will be interested in knowing that we have completed new plant facilities, sufficient for the requirements of the medicinal trade. Potassium Thiocyanate is being synthesized from abundant raw material. We are completely removed from any dependence on the raw material which has previously limited productive capacity. The finished material meets the most exacting standards.

PACKAGES AND PRICE RANGE: . . . .

Barrels containing 225 lbs.	$.65 per lb.
5 barrel lots	.62 per lb.
Kegs containing 100 lbs.	.70 per lb.
Kegs containing 50 lbs.	.74 per lb.
Kegs containing 25 lbs.	.78 per lb.

F.O.B. Phillipsburg, New York or Philadelphia.

A test sample will be mailed upon request.

J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N. J.

also available

- Potassium Thiocyanate CP
- Potassium Thiocyanate Technical
- Ammonium Thiocyanate CP
- Ammonium Thiocyanate Purified
- Ammonium Thiocyanate Technical
- Ammonium Thiocyanate Crude

Baker's fine chemicals

Estralita

AN ALLURING FRAGRANCE RICH IN THE WARMTH AND DEPTH WHICH ONLY FINE NATURAL MATERIALS IMPART.

ORIGINAL IN CHARACTER, SUPREME IN ACHIEVEMENT.

COMPAGNIE PARENTO

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CROTON • ON • HUDSON, NEW YORK

NEW YORK • CHICAGO • DETROIT • LOS ANGELES • SAN FRANCISCO
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Stokes & Smith Meeting

The packaging division of Stokes & Smith Co. held a meeting at the Philadelphia plant in January. The meeting was under the direction of Carl E. Schaeffer, sales manager, and was attended by out-of-town sales representatives, service men and demonstrators, members of the engineering department, and production and planning department.

J. Stogdell Stokes, president of the company; C. H. Nitsch, chief engineer; and L. W. Findlay, superintendent, also attended the meeting.

Interstate Paper Changes Name

Neatape Corporation is the name by which the Interstate Paper Products Co., New York, will be known from now on. A. Avrick is president and B. Brody vice-president in charge of sales of the company.

Wyeth Opens Baltimore Branch

Wyeth Inc., Philadelphia, has opened a branch office and warehouse at 1125 West North Ave., Baltimore, it has been announced by Stuart V. Smith, director of sales. Morris Wolfe, who for a number of years operated his own retail pharmacy in Baltimore, and until recently was in charge of the Baltimore depot of another biological house, has been named manager of the new branch office.

Kieweg Advanced by Commercial

Homer E. Kieweg has been appointed chief engineer of Commercial Solvents Corp. He received his degree in chemical engineering from the University of Wisconsin and has been in charge of various Commercial Solvents research, engineering and production activities for the past twelve years. He was previously superintendent of the company's penicillin plant at Terre Haute.

George E. Hines succeeds Mr. Kieweg as superintendent of the penicillin plant. Mr. Hines has been for several years engaged in research and development of the company's biological processes.

J. Eckard Wheeler, formerly process superintendent, has been named superintendent of the Terre Haute plant. Roy C. Mitchell has been made process superintendent and T. Earl Drake has been appointed superintendent of the derivatives plant.

Martin Schultes Recovers

Friends of Martin Schultes will be happy to learn that he has returned to his accustomed haunts including board meetings of the BIMS after a slight indisposition and a physical check-up which was variously and erroneously reported as mumps, measles, and yellow fever. The popular vice-president of the Hewitt Soap Co. has now returned to his desk at his New York offices and is reported to feel much as Mark Twain did about a somewhat similar situation.

Morris V. Smith, Baltimore representative, and Stuart V. Smith, director of sales of Wyeth, Inc.

Monsanto and Robot Bombs

Monsanto Chemical Co. will not only manufacture the launching propellent chemical for American models of the robot bomb, but will also be responsible for production of rocket motors used in launching.

Thomas Leaves Sterling Drug

Harold B. Thomas has resigned as vice-president of Sterling Drug Inc., to join Thomas L. L. Ryan as a partner in the advertising agency of Pedlar & Ryan, Inc. Mr. Thomas has been associated with the drug industry for twenty years and for the past fourteen years has been with Sterling where he was in charge of the Centaur and Cummer divisions.

HAROLD B. THOMAS

Loan to Schering Corp.

The Equitable Life Assurance Society of the United States has granted to Schering Corp. a loan for $1,600,000. According to William J. Hagenah, chairman of the board of Schering, these funds will be used for certain building enlargements and for additional equipment at its plants in Bloomfield and Union, N. J.

Holzbog Joins Warner

John H. Holzbog has been appointed vice-president and director of industrial relations of William R. Warner & Co., Inc., and its affiliated companies, Richard Hudnut, Inc., and Standard Laboratories, Inc., it has been announced by Dr. Marvin R. Thompson, president of the parent concern.

Mr. Holzbog was formerly director of industrial relations of the Western Cartridge Co., East Alton, Ill., and prior to that, was personnel director of Chain Belt Co., Milwaukee.

if you say "HURRY!" we'll hustle

Have these winter months pulled down your inventory of *aspirin* and *acetophenetidin?* Need more in a hurry? If you do, call on Monsanto and you'll get prompt action.

Service isn't all you'll get when you order from Monsanto. You'll get quality that is the result of laboratory-controlled production through every manufacturing step. Quality and service are the reasons why so many in the pharmaceutical field have come to count upon Monsanto as their *reliable* source of supply. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

ASPIRIN (Acetyl Salicylic Acid, U. S. P.)			
Specifications:	Conforms to requirements of U. S. P. tests.	**Available Forms:**	Crystals: 20-mesh and 40-mesh. Powder: 80-mesh. Starch Granulations: 10%; 16%; and 20% starch.
ACETOPHENETIDIN, U. S. P.			
Specifications:	Conforms to requirements of U. S. P. tests.	**Available Forms:**	Crystals: 14-mesh. Powder: 80-mesh.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

	MONSANTO CHEMICALS... Serving the Pharmaceutical Field		
Acetanilid U.S.P.			Saccharin U.S.P.
Acetophenetidin U.S.P.	Chloral Hydrate U.S.P.	Methyl Salicylate U.S.P.	Salicylates
Acetyl Salicylic Acid (Aspirin)	Chloramine-T U.S.P.	Phenol U.S.P.	Salol (phenyl salicylate)
Benzoic Acid U.S.P.	Ferric Phosphates	Phenolphthalein U.S.P.	Sodium Benzoate U.S.P.
Caffeine U.S.P.	Glycerophosphates	Phosphoric Acid	Sodium Phosphate, Di
Calcium Phosphate, Di	Magnesium Phosphates	Potassium Ammonium Phosphate	Sulfanilamide U.S.P.

Beach Visits Latin America

John H. Beach, vice-president of Seeley & Co., Inc., New York, left February 7 for Rio de Janeiro. He was accompanied by William H. Stickney who will represent Seeley & Co. in Brazil. Before returning to the United States Mr. Beach will visit Mexico, Guatemala and other Latin-American countries.

L. A. Danco Advanced to Major

Leon A. Danco has been advanced to the rank of Major in the U. S. Marine Corps. Major Danco who is serving in the Pacific theater is probably the only man in the United States Marine Corps who is entitled to wear two fourrageres, a military honor which is worn on the left shoulder of the uniform and is usually awarded to an entire unit for meritorious service and action.

Major Danco, who was formerly manager of the cosmetics division of McKesson & Robbins, has been on active duty since September 1942 but his military record dates back to August, 1914, when, at the age of fifteen, he volunteered with the Belgian Army at the outbreak of World War I. He served fifty-two months in the Belgian army advancing from private up through the ranks to master sergeant, then to lieutenant, and being awarded nine medals and two fourrageres.

Wounded three times, Major Danco participated in every major battle of the Belgian Army until 1916, and then went to Africa to participate in both the First and Second Belgian campaigns in German East Africa. To all questions concerning his awards from World War I, he modestly replies, "I was just too damned scared to run away. It was the same every time." In this war he has been awarded the Asiatic Pacific Theater Medal.

After his discharge from the Belgian Army in 1919, Major Danco, who is a graduate of the University of Louvain, came to the United States and engaged in the importation and manufacture of chemicals, drugs and perfumes, as general manager of the Belgian Trading Co., in New York, until 1927 when he sold his interests and began his association with McKesson & Robbins.

Malone Returns to American Home

William E. Malone, Jr., recently honorably discharged from the Army of the United States, has returned to American Home Products Corp. in a new position—advertising and sales promotion manager of the corporation's cosmetic unit, Affiliated Products, Inc.

Mr. Malone was formerly assistant to the vice-president of the Kolynos division before serving in the Army overseas. He is making his headquarters at 22 East 40 St., New York.

Lloyd Fischbeck in Army

C. Lloyd Fischbeck, manager of the flavor division of P. R. Dreyer, Inc., New York, has been given a leave of absence and left March 7 to enter the Army of the United States. Mr. Fischbeck has been with P. R. Dreyer, Inc. for the past eight years and during that time has served as advertising manager.

CAPTAIN JOHN O. TEETER (left) AND MAJOR ALBERT A. TEETER, JR.

Tarbet Advanced by American Home

C. W. Tarbet, active in American Home Products Corp. since its organization in 1926, has been appointed an assistant to Walter Silbersack, executive vice-president and general manager of the corporation.

For many years Mr. Tarbet was president of the Kolynos Co. and the Bi-So-Dol Co., subsidiaries of A. H. P. During this period, he directed export operations for all American Home Products Corporation companies, traveling extensively in all parts of the world.

In 1942 he joined the army and was attached to the Surgeon General's Office at Washington as a Lieutenant Colonel. In August 1944 he was released at the request of Alvin G. Brush, chairman of the American Home board, to administer war contracts held by the corporation's chemical and dye companies. In his new position, Mr. Tarbet will have charge of administrative matters concerning the corporation's chemical units and engineering department.

Brooks Made Chairman

H. L. Brooks, president of Coty, has accepted the chairmanship of the Cosmetics Division of the committee for the Legal Aid Society 1945 appeal. The aim of the appeal is to raise $160,000 to enable the socity to continue its valuable help in solving legal problems for members of the armed forces and their dependents, as well as to carry on its usual legal assistance to civilians who cannot afford to pay lawyers' fees.

Teeter Boys Promoted

Both of the sons of Albert A. Teeter of Chas. Pfizer & Co. have recently been promoted. Albert A. Teeter, Jr. 28, who is serving in the Army Air Corps, has been promoted to major and John O. Teeter, 26, is now a captain in the Army Medical Corps.

Major Teeter enlisted in the army in March 1941, was commissioned a second lieutenant in July 1941, promoted to first lieutenant in November 1942, and to captain in August 1943. He is now director of supply and military personnel, U. S. Typhus Comm., serving as assistant to General Bayne Jones.

Captain John Teeter entered the army in January 1942. He was commissioned a second lieutenant in February '43, and was promoted to first lieutenant in October 1943. He is Adjutant Army Medical Purchasing office.

Leeming Names Two V.P.'s

Thomas Leeming and Daniel Bradley have been elected vice-presidents of Thos. Leeming & Co., Inc. They will also continue as directors of the company.

Hindle Heads Standard Synthetics

Standard Synthetics Inc. was reorganized as of January 1, 1945, and John Leslie Hindle is now the president and Oliver James Lane the vice-president.

J. LESLIE HINDLE

Mr. Hindle was born in Leeds, England, in 1896 and was graduated from Leeds University with a B.S. degree in organic chemistry. After spending three years in India, he founded Standard Synthetics Limited in 1923 to manufacture aromatics and distill essential oils. Standard Synthetics, Inc., the American branch of the company, was established in 1938, and since November 1939 Mr. Hindle has been devoting his time to the American company.

Apex-Petroleum Solvents Agreement

Stanford L. Hermann, operating vice-president of the Apex Chemical Co., Inc., has approved the signing of an agreement with Louis A. Staff, president of Petroleum Solvents Corp. of New York, wherein Apex Chemical Co., Inc., will supervise, direct, and promulgate the entire research of the Petroleum Solvents Corp. for the year 1945.

Dr. Harry Kaplan, a graduate of New York University, has been engaged to undertake this work. He was previously employed by the Winthrop Chemical Co. where his work was principally in the production of organo-medicinals, quaternary ammonium compounds, and other essential industrial developments.

Murry L. Hurwitz who has been with Apex since 1939 has been appointed engineer in charge of new installations.

Consulting Chemists Directory

The Association of Consulting Chemists and Chemical Engineers, Inc., has issued the ninth edition of its "Classified Directory."

Streamlined in appearance the book contains 108 pages of information. Section I is a key sheet and index thereto, listing about 100 fields of chemistry and engineering. Section II is comprised of the scope sheets of members, describing their qualifications and particular scope of activities. Section III lists the membership and also includes the names of the companies with which members are affiliated.

Copies of the directory are available without cost upon application to the association at 50 East 41 St., New York 17.

Bonds by Abbott for Suggestions

Twenty-seven employees of Abbott Laboratories received $25 War Bond awards in special recognition for submitting one or more outstanding suggestions during 1944, at a meeting of department managers and supervisors. Each of the prize winners had previously received a cash award at the time the suggestion was adopted. S. DeWitt Clough, president and general manager of the company, pointed out that in 1944, 44 suggestions out of every 100 were approved.

Another feature of the meeting was presentation of service emblems to 133 employees who have, during the past year, completed five, ten, fifteen, or twenty years of service.

Marietta-Harmon Chemicals, Inc.

Two wholly-owned American Home Products Corporation affiliates—Harmon Color Works, Inc., Haledon, N. J., and Marietta Dyestuffs Co., Marietta, Ohio—have been merged to form Marietta-Harmon Chemicals, Inc., it has been announced. George A. LaVallee is chairman of the board of the new company and Victor J. Chartrand is president.

Whittaker Leaves Arden

Harris Whittaker who joined Elizabeth Arden as assistant to the president and merchandise manager in October 1943, resigned February 28. Before announcing his future plans Mr. Whittaker will spend some time in Florida.

Owens-Illinois Divisional Managers

Smith L. Rairdon, vice-president and general sales manager of the glass container division of Owens-Illinois Glass Co., Toledo, has announced that E. F. Bertrand, now on leave with the War Production Board, will be sales manager to the divisions serving the drug industries upon his return.

E. A. Hildreth has been made sales manager of the sales divisions serving the food industries, and R. E. Delaplane of the divisions in the beverage group. Mr. Delaplane will continue his responsibilities in closures and plastics.

H. C. Knepper has been made assistant to the general sales manager; K. J. Solon manager of sales control and Jack Thayer assistant sales manager in New York.

John H. Kelly, advertising manager of Emerson Drug Co.; Parks Johnson and Warren Hull, co-interviewers on the Emerson Drug "Vox Pop" program; and Paul Hollister, vice-president of Columbia Broadcasting Co.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

March ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

Alcohol-Water Injection Proves Key to Huge Power Increase in Gasoline Engines

Official U. S. Navy Photo

A Helldiver earns its name! On many combat planes, alcohol-water injection provides priceless minutes of super speed.

Present Large-Scale Use on War Planes Seen Extending to Cars, Buses and Trucks

During 1944, the curtain of censorship was lifted just far enough to give motor-minded America an enticing preview of a wartime development that will go far to step up the performance and operating economy of postwar passenger cars and commercial vehicles. The development was the injection of a mixture of alcohol and water into the gas-air stream of the engine.

Extra Horsepower

The first story broke in May of last year. Dramatically it told how a famous Navy fighter pilot owed his life to the new development. A sudden burst of extra speed, released at the flick of a switch, had enabled him to streak out of range of three pursuing Zeros. Later stories revealed how alcohol-water injection was supplying extra power for take-offs and steep climbs.

The limiting factor, of course, is the amount of the alcohol-water mixture that is carried on a plane. At present, only enough is carried to give the plane a few minutes flying at the higher speed. But those are the critical minutes that can mean the difference between getting the jump on Jerry—and disaster.

The Theory

Every motorist has experienced the "lift" a gasoline engine gets on a damp day or after dark when humidity is high. The explanation, as automotive engineers know, is to be found mainly in the internal cooling action of the water. This cooling action tends to smooth out the progress of the flame front during combustion, applying more uniform pressure on the piston head throughout the stroke. Self-ignition of the compressed hot gas is prevented so that detonation does not occur.

(Continued on next page)

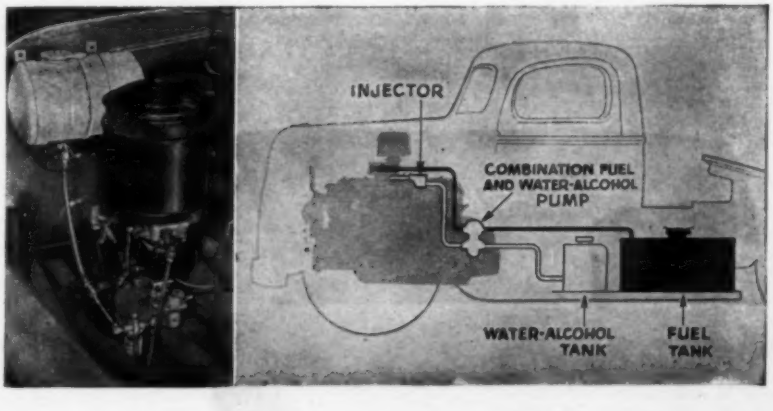
Lube Oil Additives Made by New Process

For years, high-pressure lubricants such as those used as cutting oils and for heavy-duty truck transmissions, have been prepared by adding small amounts of sulfurized oils to regular lubricants.

A recently granted patent covers an improved method of preparing such sulfurized mono-esters of fatty acids for use as lubricant improvers. A feature of the new process is that glycerine is reclaimed.

Fatty glycerides, prepared by mixing lard oil and cottonseed oil, were heated to approximatetly 330 deg. F., and a small amount of sulfur added. The sulfurized glycerides thus obtained were then reacted with a mixture of butanol and sulfuric acid. When the reaction was completed, the mixture stratified into an ester layer above and a glycerine-acid layer below. The ester layer was neutralized with lime. After further refining with activated clay, the treated oil was filter-pressed out.

The glycerine-acid layer was further refined to recover the glycerine.



(Below left) Typical passenger car installation. (Right) Schematic diagram of alcohol-water injector installation on truck. Although a small additional fuel tank is required, the increase in power and engine life far outweigh the disadvantage.

Non-Permit Alcohol Developed by U.S.I. for Aircraft Use

Vitol Special Widely Used for Test Purposes and Deliveries

One of the problems facing the aircraft industry right at the outset of the alcohol-water injection program was to find a suitable alcohol for test, experimental, and delivery purposes. The Armed Forces themselves, of course, could use any alcohol they chose without securing a permit. To private aircraft companies, however, any specially denatured alcohol would have entailed securing alcohol permits and the inescapable red tape and inconvenience associated with the use of specially denatured alcohol.

The aircraft industry needed a proprietary product that met Army and Navy specifications on the one hand, and was approved by the Treasury Department for use without permit on the other.

Vitol and Vitol Special

As a result of its early work on alcohol-water injection in conjunction with the Vita-Meter Corporation, U.S.I. had developed a proprietary formula which solved the immediate problem. The formula had been approved by the Alcohol Tax Unit of the Treasury for use without permit and the product was ideally suited for use in the operation of aircraft engines. Early last year, "Vitol" made its entry into the aviation field and was used extensively in testing combat aircraft.

The Army and Navy specifications, however, called for a different denatured alcohol

(Continued on next page)

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March ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Alcohol-Water Injection

(Continued from preceding page)

Water has a high latent heat of vaporization (970 Btu per lb) so that if internal cooling were the only factor, there would be no point in using alcohol (367 Btu per lb). However, extensive tests have shown that alcohol alone and alcohol-water mixtures give better results than water alone; and water will freeze at low temperatures. When alcohol is used, peak pressure is delayed until the piston is further down its stroke and a more efficient cycle is obtained. Important, too, less engine roughness is encountered at high-power output; life of bearings and other engine parts is prolonged.

Postwar Possibilities

A vast amount of research has been done on alcohol-water injection into the gas-air stream of aircraft engines which, while details cannot now be revealed, points to its increasing use in this field. Its wide use on supercharged aircraft engines already has given remarkable results.

In January of this year, three engineers of Thompson Products, Inc. delivered a paper before the S.A.E. describing their extensive tests on alcohol, alcohol-water and water injection in truck and passenger car engines. Their conclusions, while pointing out the need for greater research, are highly significant. They may be summarized as follows:—

1. The control of pressure rise and shock with alcohol-water injection may facilitate the design of higher-compression engines of minimum weight.

2. That it will be particularly effective if supercharging is used on ground vehicles. Here, it would enable the engine to consume more air at the same engine speed.

3. That it may have a great field of use in light aircraft, designed to operate on ground-vehicle fuels.

4. That it will tend to maintain cleaner engines with softer, more easily removed carbon deposits.

5. That best gains through its use are realized when fuel about 12 octane numbers below engine requirements is used.

6. That it will effect economics, by permitting the use of lower-grade fuel, which will extend its use to many operations.

Acetone Aids Recovery of Biotin from Waste

Biotin, an important part of the B-complex vitamin, can be recovered from waste fermentation liquors, according to claims made in a newly granted patent assigned to a leading laboratory.

Mother liquors from fumaric acid fermentation processes are treated with sufficient activated charcoal to absorb the biotin. Biotin is then extracted from the charcoal. Among the extracting agents suggested is an aqueous solution of 60 per cent acetone and 2½ per cent ammonia.

Non-Permit Alcohol

(Continued from preceding page)

—S.D. No. 3-A. To help aircraft builders avoid the necessity for securing a permit to use S.D. No. 3-A, U.S.I. altered its original formula and produced Vitol Special.

Vitol Special is essentially the same as the product called for by Army and Navy specifications and performs equally well. But it has a strong, non-alcoholic odor added which warns against its misuse. Being a proprietary product, it requires no permit and the markings on the drums show no reference to alcohol.

Penicillin vs. Heart Disease

Sub-acute bacterial endocarditis, a heart disease from which recovery was rare, is responding to penicillin, according to reports from two New York hospitals. The "cure" is effective only where the organism is a streptococcus sensitive to the drug.

Present type alcohol-water injector mounted on Flange, set between carburetor and manifold.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Light-fast acetate dyes, including reds, greens, blues, oranges, browns, yellows and violets, are offered for use on both cellulose acetate rayon and nylon. Color fastness varies with the depth of the color. **(No. 911)**

USI

First-aid burn treatment is offered in a new ointment which is designed to stop pain, exclude oxygen, prevent infection and stimulate healing. **(No. 912)**

USI

A new anti-stick agent is claimed to facilitate removal of molded plastics from the mold. The liquid, packaged in pint bottles, is said to saturate the mold, making it free ejecting for a large number of parts before another application is needed. **(No. 913)**

USI

Freeze-and-thaw resistant concrete is claimed to result from the use of a new-type portland cement. An added air-entraining material is said to give this new quality, plus cohesion and uniformity. **(No. 914)**

USI

A substitute for camphor, in nitrocellulose, is one of the uses suggested for a new chemical described as having the properties of both a high boiling solvent and a volatile plasticizer. It remains fluid down to —70 deg. C. **(No. 915)**

USI

To overcome odors, no matter how noxious, a chlorophyll air freshener is offered for industrial and commercial application. Designed to be used in connection with air conditioning or ventilating systems, it may also be used in non-conditioned spaces. **(No. 916)**

USI

A stable organic peroxide is claimed by its manufacturer to be insensitive to shock, to form clear, bubble-free films, and to be useful as a catalyst in bulk polymerization. It is soluble in all common organic solvents. **(No. 917)**

USI

New flame-resistant gasketing is offered in 1/8 in. and 1/16 in. thicknesses, with the added claim that it is suited for joint seals in ventilating systems and water, fusel-oil and diesel-oil systems. Other suggested uses include gasketing for air-lock and refrigerator doors. Pressures up to 25 p.s.i. can be maintained. **(No. 918)**

USI

A fluorescent plastic dye, in solution form, is stated to impart fluorescence to any type of plastic. Suggested uses include decoration, dials, medical equipment, etc. **(No. 919)**

USI

Plywood panels 50 feet long, and up to 8 feet in width and 1¼ inches in thickness, are on the market. Laminations are bonded with phenolic-resin adhesives. **(No. 920)**

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK 17, N. Y. — BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS
Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined

Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%, Absolute
*Super Pyro Anti-freeze
*Solox Proprietary Solvent

***ANSOLS**
Ansol M
Ansol PR

*Registered Trade Mark

ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS
*Duotal
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

FEED CONCENTRATES
*Curbay B-G
*Curbay Special Liquid
*Vioctone 40

ACETONE
Chemically Pure

RESINS
S&W Ester Gums—all types
S&W Congo Gums—raw, fused & esterified
S&W *Aroplaz—alkyds and allied materials
S&W *Arotene—pure phenolics
S&W *Arochem—modified types
S&W Natural Resins—all standard grades

OTHER PRODUCTS
Collodions
Ethylene Glycol
Nitrocellulose Solutions
Ethylene
*Indulone
Urethan

American Products Advances Dinan

At the annual meeting of the board of directors of American Products Co., Cincinnati, Ed. F. Dinan was elected vice-president in charge of sales. Mr. Dinan was formerly general sales and advertising manager.

ED. F. DINAN

Charles A. Branham, sales promotion manager now becomes advertising manager as well. Mr. Dinan has been with the company since 1934 and Mr. Branham since 1936.

CHARLES A. BRANHAM

American Products Co. manufactures a line of more than 250 household products and, since the war, has been turning out vast quantities of powdered foods.

New Site for Calco Plant

American Cyanamid Co., New York has purchased approximately 800 acres of land on the Ohio River near St. Marys, W. Va. No plans have been made for the immediate use of the property but the company has announced that the purchase was made for its Calco Chemical Division, whose principal plant is now at Bound Brook, N. J., and that its development will be part of the Calco post-war program.

Ensign Danco Visits Father

With a ten-day leave in his pocket Coast Guardsman Ensign Leon A. Danco Jr. thumbed his way from New Guinea to a meeting with his father, Major Danco, adjutant of a Marine fighter squadron based in the Marshalls.

The 1900-mile trip was negotiated in less than three and one-half days. He traveled on a cargo ship, Army ambulance, jeep, garbage lighter, Douglas transport and Vega Ventura bomber. It was their first reunion in nine months.

Rogers Advanced by Warner

L. M. Rogers has been appointed superintendent of the pharmaceutical division of William R. Warner & Co., Inc., it has been announced by Ralph W. Henderson, vice-president and general plant manager.

Mr. Rogers has been with William R. Warner & Co., Inc. for six years and is now responsible for the activities of the manufacturing, filling and finishing, finishing materials storage, and shipping departments as well as for production of "Sterisol" ampoules, "Anusol" suppositories and other specialties of Schering & Glatz, Inc., a subsidiary of William R. Warner & Co., Inc.

Standard Synthetics Opens in Chicago

Standard Synthetics, Inc. has announced that the Indiana and Iowa trading areas are now covered from its branch office at 219 East North Water St., Chicago, which is under the management of Edward Sinclair. Mr. Sinclair has been associated with the food and confectionery industries for many years and will work under Ralph Crow, sales manager.

Merck & Co., Ltd. Plans for Post-war

Plans for the post-war manufacturing expansion of Merck & Co., Ltd. were announced at the annual meeting of the shareholders in Montreal. R. I. Hendershott, managing director, stated that the company is rapidly outgrowing its present facilities in the St. Henri district of Montreal and that a tract of 210 acres has been purchased at Valleyfield, Que., where adequate power, water, and transportation facilities will be available.

The Merck penicillin plant in Montreal was the first in the British Empire to use the deep fermentation method on a commercial scale, and it was constructed and put into operation in the record time of six weeks.

Sonneborn Elects Vice-presidents

Dr. F. W. Breth and Gustave Schindler have been elected vice-presidents of L. Sonneborn Sons, Inc., it has been announced by Dr. Ferdinand Sonneborn, president.

Dr. Breth, who will serve as vice-president in charge of manufacturing,

DR. F. W. BRETH

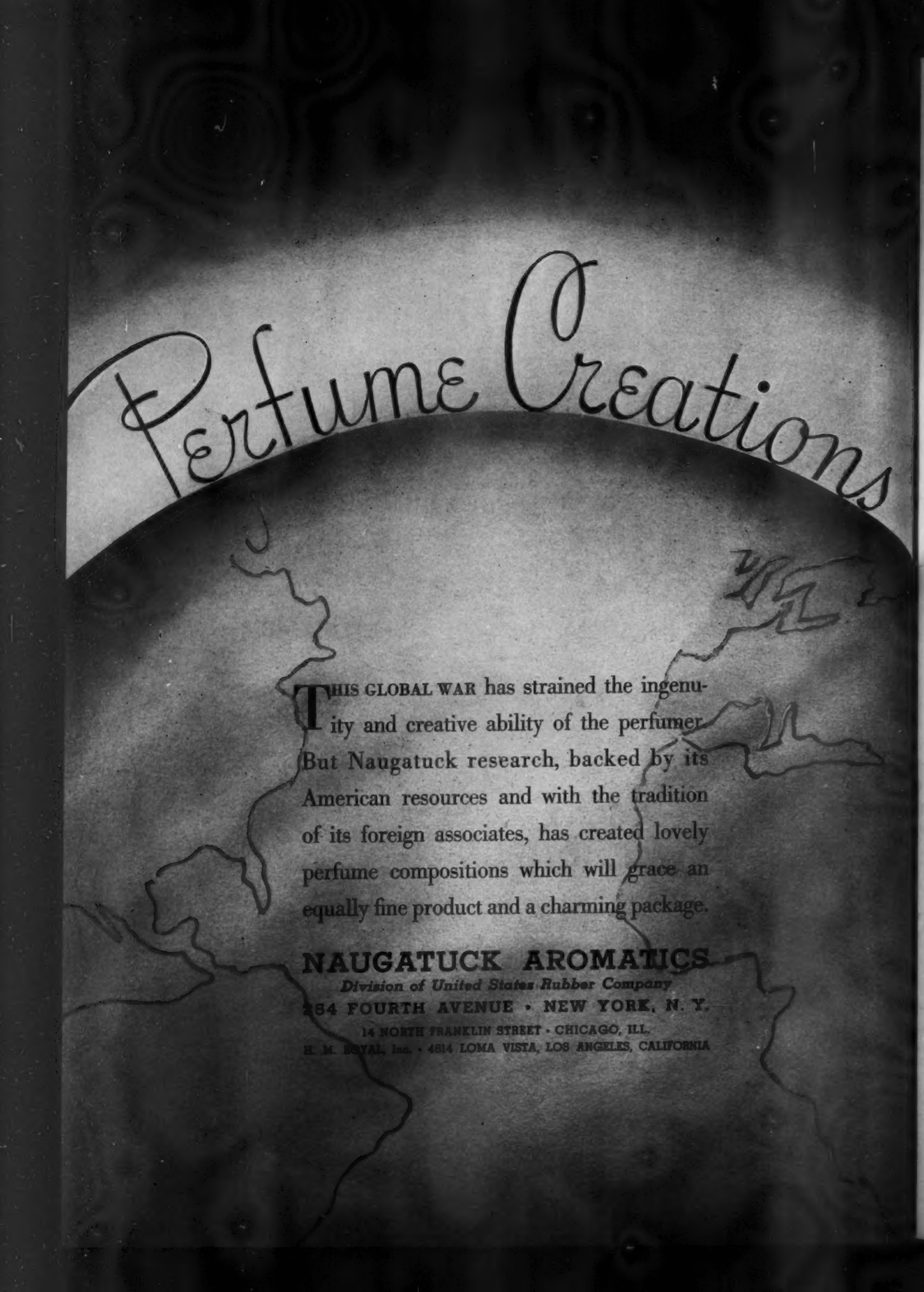
joined L. Sonneborn Sons, Inc., in 1915 as chief chemist and was later named technical director. He has been instrumental in the development of many new products and refining processes and is

GUSTAVE SCHINDLER

the author of a number of papers on petroleum research projects.

Mr. Schindler, who is thirty-five years old, started his business career in 1928 as the operator of a group of refineries which manufactured many specialized petroleum products similar to those made by Sonneborn. These products were sold in England, Continental Europe, Africa, South America, Australia and the Far East.

More recently he has served as president of Petroleum Specialties, Inc., New York, an organization which he founded in 1939. He will continue as president of this firm. His knowledge of foreign markets is expected to be an important factor in the development of Sonneborn's post-war export operations.


Perfume Creations
THIS GLOBAL WAR has strained the ingenuity and creative ability of the perfumer. But Naugatuck research, backed by its American resources and with the tradition of its foreign associates, has created lovely perfume compositions which will grace an equally fine product and a charming package.
NAUGATUCK AROMATICS
Division of United States Rubber Company
254 FOURTH AVENUE • NEW YORK, N. Y.
14 NORTH FRANKLIN STREET • CHICAGO, ILL.
H. M. ROYAL, Inc. • 4814 LOMA VISTA, LOS ANGELES, CALIFORNIA

Medal to Rear Admiral Stitt

A gold medal and an honorarium of $500 for outstanding service in the field of tropical medicine, were presented February 5 to Rear Admiral Edward R. Stitt (retired), former Surgeon General of the United States Navy by the American Foundation for Tropical Medicine.

The presentation was made by Col. Richard Pearson Strong (M.C.) director of tropical medicine at the Army Medical School, Washington, and recipient of last year's award. The medal and honorarium were established in 1944 through a gift by the Winthrop Chemical Co.

Sperti Opens in New York

Ralph A. Lostro, executive vice-president of Sperti, Inc., Cincinnati, has announced the opening of a New York office at 714 Fifth Avenue. All divisions will be represented in the New York office, including drugs, cosmetics, electronics, appliances, yeast and ceramics. George Stevens, formerly of the parent organization in Cincinnati, has been named to direct the New York office.

George A. Breon Meeting

George A. Breon and Company, Kansas City, held a four-day meeting of its district managers in January. The guests were all technical service men who exceeded their annual sales quota by 50 per cent or more. These men then became members of the traditional Breon 150 per cent club.

Selden Named V.P. by Greeff

J. M. Selden, secretary of R. W. Greeff & Co. has been elected a vice-president of the company. Mr. Selden has been associated with R. W. Greeff since 1933 and was formerly vice-president of the Selden Co.

Sterling with Hudnut

Richard Hudnut announces the appointment of Daniel H. Sterling as assistant sales manager. Mr. Sterling has been with the Elizabeth Arden Sales Corp. for the past fifteen years.

Lieut. John O. Buslee

First Lieutenant John O. Buslee, son of John Buslee of Neumann, Buslee & Wolfe, Chicago, and Mrs. Buslee, who was first reported missing in action September 28 while on a bombing mission over Magdeburg, Germany, has now been reported as killed in action on that date.

Jay, as he was known, had for many years called on the trade in the middle west with his father during his summer vacations. It was his plan to have a territory of his own when he finished at the University of Wisconsin. However, before his graduation, he enlisted in the Army Air Corps in April 1943, receiving his commission as a Second Lieutenant in January, 1944.

The bomber group to which he was attached was cited as a unit by the President for their effective and meritorious work and he was awarded the air medal with oak leaf clusters for his achievements.

District Managers and members of the 150 per cent club of George A. Breon & Co.

James E. Bartlett

James E. Bartlett, chairman of the board of Allied Laboratories, Inc., and formerly president of Pitman-Moore Co., Indianapolis, died at his home in Ft. Lauderdale, Fla., February 23. He was seventy-eight years old.

At nineteen Mr. Bartlett entered a special course in chemistry and pharmacy at the Philadelphia College of Pharmacy. Upon graduation he accepted a position with Parke, Davis & Co. at Detroit and served that company in various capacities, including the positions of analytical chemist, manufacturing superintendent, salesman, branch manager, general sales manager and finally president.

JAMES E. BARTLETT

In 1921 he decided to retire from business but in 1923 he secured a controlling interest in Pitman-Moore Co., Indianapolis. He served that company as president from 1923 to 1935 and in 1929 was a leading figure in the organization of Allied Laboratories, Inc., of which Pitman-Moore Co. has since been a division. Mr. Bartlett became chairman of the board of Allied Laboratories, Inc. upon its formation and retained the position until his death.

He was active in the affairs of several drug associations, including the National Wholesale Druggists Association, the American Drug Manufacturers Association and the American Pharmaceutical Manufacturers Association.

William F. Noll

William F. Noll, executive manager and partner of the Pinex Co., Fort Wayne, Ind., died unexpectedly February 8. He was thirty-six years old.

Mr. Noll was the son of the founder of the company, the late William H. Noll. He had attended the University of Michigan and was graduated from Columbia University School of Pharmacy in 1929.

How to Get Maximum Wear from Tablet Machines, Punches and Dies

It is important that all operators, especially new men coming into Industry, be told the importance of cleanliness and lubrication in the operation of tablet machines.

Stokes machines are carefully made, from the finest of materials. They will give long, economical service if these few simple suggestions are followed:—

- **Keep machines clean**
- **Keep parts properly lubricated**
- **Don't use more pressure than necessary**

Single Punch Machines require thorough lubrication at regular intervals and inspection to make sure that punches are always properly aligned and locked securely in place.

Rotary Machine punches should be removed and cleaned daily. Wipe off pressure rolls with oily cloth. If material is abrasive or sticky remove and clean lower cam tracks. Lubricate these and all other parts and replace punches ready for next day's run. At least once a week, if material is difficult, punches and lower cams may be washed with kerosene to remove accumulated dirt and grease. Also take off rear apron guard and inspect worm. If grease is dirty, flush out with kerosene. Also clean all material from the weight adjusting cam.

GENERAL CARE OF PUNCHES AND DIES. The best method for lubricating rotary punches is to massage clean grease thoroughly all over shanks and heads, rather than give them just a wipe or two. Never permit a Rotary Machine to be run empty; this allows upper and lower punches to come into direct contact.

Reduce pressures whenever possible, because wear is directly proportional to the amount of pressure applied. Excessive pressure means excessive wear — sometimes bends punches. Rebalancing formulas to make softer granulations usually makes it possible to avoid heavy pressures.

Our laboratory division will be glad to supplement these suggestions or answer specific questions on tablet manufacture and equipment maintenance.

F. J. STOKES MACHINE COMPANY
5932 Tabor Road Olney P. O. Philadelphia 20, Pa.

F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est. 1895

Production Forum

By Francis Chilson
Industrial Consultant

Glass Flask Heater

For the difficult job of heating complex glassware setups involving distillation columns, cumbersome flasks, delicate reflux condensers, and other costly glass ware, there are no other heating devices which offer the features of the new "Precision" Safety Heaters, made by Precision Scientific Co. both from the standpoint of operating safety and easy handling. Many valuable suggestions dictating the practical design of these heaters came from prominent laboratories in diverse fields. Credit is particularly acknowledged to the Jackson Laboratories of the E. I. duPont de Nemours Company at Wilmington, Delaware, and the Northfield Laboratory of the Pure Oil Company. Precision Scientific Co., 1750 N. Springfield Avenue, Chicago 47, Illinois.

Electronic Heating

This is a sixteen page booklet written for both engineer and manufacturer on the subject of electronic heating.

All the essential facts are discussed in a language stripped of confusing terminologies. It contains a brief record of the historical background and development of electronic heating—explains the principle of its operation—describes the two chief methods and fields of application and lists many proved present day uses. Many illustrations are used to make all the important parts of the text easily understood and several types of High Frequency Generators are shown. This is an important handbook to have if you are considering the application of electronic heating to your own manufacturing methods. The author has been a pioneer in the electronic heating industry for more than 21 years. Write Scientific Electric, 107-119 Monroe Street, Garfield, New Jersey.

Dustless Powder Filler

An auger feed powder filling machine is not new but a machine like one being offered by Stokes & Smith is new in a number of particulars.

It is fast, having a production of seventy and upward per minute. Double this speed can be obtained by using four stations instead of two.

It is dustless. The filling operation as constructed makes very little dust, but even that very small amount together with any spillage on the stainless steel woven wire belts is drawn into an exhaust system and so disappears. The outside of the containers which are being filled is absolutely free of any dust or dirt.

It is equipped with variable speed drive so that the production may be adjusted to closing operations which follow the filling.

The finish of the machine is in keeping with clean and efficient operation and its installation in a factory would certainly encourage the management and the operators to keep everything "ship shape." Noncorrosive metal and chrome plate are freely used.

In the filling operation the face powder drum is lifted up against a pad on the end of the auger sleeve and the pressure with which the powder leaves the auger makes sure that the powder drum is filled so that there will be a solid surface of powder under the transparent face of the drum.

While the model of machine was developed for face powder drums, it is equally good for cans, bottles and a number of different kinds of containers within its range —minimum 1½" x 1½" x ¼" high and maximum 4½" x 4½" x 8" high.

One particular feature which is to be noted is a package trip which acts with a "feather weight" package so that the "no package no fill" operates efficiently even with the lightest powder drum.

A section of supply pipe above the hopper of the machine is furnished with a transparent window to show whether there is any interruption in the supply of material coming to the hopper.

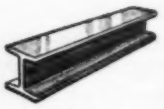
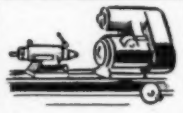
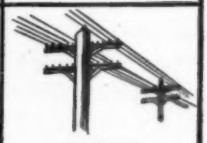
The more important operating mechanism is fully enclosed and the machine is heavily constructed for long wear.

The measurement of the powder is by the number of turns of the auger feed which is regulated by an adjustable cam. A non-stop adjustable device can be furnished if desired.

This machine is being offered by Stokes & Smith Co.

WHAT DO THEY HAVE IN COMMON?

ANSWER BELOW

AIRCRAFT	MEDICINES	COMMUNICATIONS	TANKS	MOTORS	FOODS
GAUGES	CAMERAS	TIRES	MILK	SHIPS	OPTICALS
AUTOMOBILES	MUNITIONS	 METALS	RECORDS	CHEMICALS	TEXTILES
MAPS	OIL	RADIO	X-RAY FILM	 MACHINE TOOLS	 COPPER
PAINT	PLASMA	PLASTICS	GEARS	WATCHES	PARACHUTES

ANSWER: *All* these products are being made faster, better, at lower cost, or are giving better service—through use of *air conditioning or refrigeration.* Yes, all these and thousands more! Wherever you can use air conditioning or refrigeration for faster, better, lower cost production, see G-E!

AIR CONDITIONING AND INDUSTRIAL REFRIGERATION BY

BUY and hold WAR BONDS

GENERAL ELECTRIC

General Electric Co., Air Conditioning and Industrial Refrigeration Divisions, Section 453, Bloomfield, N. J.

Tune in: The "G-E HOUSE PARTY" every afternoon Monday through Friday, 4 p. m., E W T, C B S . . . The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 P. M., E W T, N B C . . . "THE WORLD TODAY" News, Monday through Friday, 6:45 P. M., E W T, C B S

Laboratory Pump

While the problem of dispensing solutions in the laboratory may seem a minor one, actually it is one of considerable concern. Laboratories handle a wide range of acids and alkalies. Much work involves accurately controlled solutions, and it is common practice whenever dispensing a solution out of a bottle not to pour the unused portion back into the original container. Such a practice is wise but it represents a substantial cost over the course of a year in wasted solutions. Despite all precautions spillage and solution dripping down the side of the bottle occurs, causing corrosion of laboratory bench tops.

About a year and a half ago, the problem of dispensing small, but accurate, amounts of a corrosive solution through a metallic suction pump was solved by protecting the exposed metal portions with a thick coating of a Tygon corrosion-resistant synthetic.

An all-plastic laboratory pump was developed and tested over a year by the Tygon Labs of U. S. Stoneware Co., Akron, Ohio. It's called the Tygomatic Laboratory Pump.

Briefly, the Tygomatic Laboratory Pump consists of an injection molded acid-and-alkali resistant body, and plunger. The gaskets used to effect the seal are made of sponge neoprene rubber, internally lubricated for smooth action. The metallic spring which forces the plunger back to normal position is of a corrosion-resistant alloy, but the design of the pump is such that no liquid nor vapor can contact the metallic spring, enabling it to stand up for long periods of time.

To use the pump, a glass tube, or a clear, flexible Tygon tube is attached to the pump inlet and immersed below the solution level. A cork, rubber stopper, or a screw cap (as found on many acid bottles) is fitted around the pump inlet, and, in turn, is fitted into the neck of the bottle. Pressure is built up in the bottle with five or six strokes of the plunger. The pressure forces the liquid up through the tube, through the outlet and into the receiving container. To stop the flow of liquid the plunger is released and allowed to return to its normal position. The liquid in the pump flows back into the bottle. With the plunger in normal position, the pump acts as a stopper.

In their own laboratories U. S. Stoneware has found the Tygomatic Pump of tremendous practical value in these five ways:

1. The pump, when once installed, performs as a permanent dispenser, and seals off the solution from the air at the same time, thus retaining the concentration of the solution indefinitely.
2. The pump delivers an accurate amount of liquid, governed by the length of time the plunger is held down, thus effecting a substantial reduction in solution loss.
3. Solutions will not drip at the outlet, nor dribble down the sides of the bottle, preventing corrosive attack on laboratory benches and table tops, and assuring safe handling of bottles.
4. The bottle need not be moved from its position, minimizing the possibility of breakage from the handling of the bottle.
5. The pump can be easily adapted to fit any size bottle.

Two important precautions in the use of the Tygomatic Laboratory Pump should be noted. First—the pump should not be under repeated contact with concentrated acids and concentrated alkalies. If acids or alkalies with concentrations exceeding 60% are to be dispensed, the pump should be flushed with water occasionally, and should not be allowed to be in contact with the solution for more than 24 hours. Otherwise dimensional changes may occur in the pump which would cause sticking of the plunger. Second—the pump should not be used to dispense such solvents as aromatic hydrocarbons, aliphatic hydrocarbons, ketones, esters, or chlorinated hydrocarbons. The pump, however, can be used to dispense alcohols and ethers.

Air Diffusion

A new catalogue that simplifies the selection and application of KNO-DRAFT air diffusers has been announced by the W. B. Connor Engineering Corp., Engineers and Manufacturers of Air Diffusion and Air Recovery equipment.

Not the usual "promotion piece," it is really more of an engineering handbook, filled with clear sketches, charts, instructive text and dimension prints, that provide the engineering data necessary for the proper application and performance of air diffusers in general and KNO-DRAFT Adjustable Air Diffusers in particular.

The data on selection, application, location, assembly, erection, adjustment and testing has been compiled primarily as a quick, accurate aid for those who are responsible for the "design" of air diffusion and those who

install the equipment and are responsible for its performance.

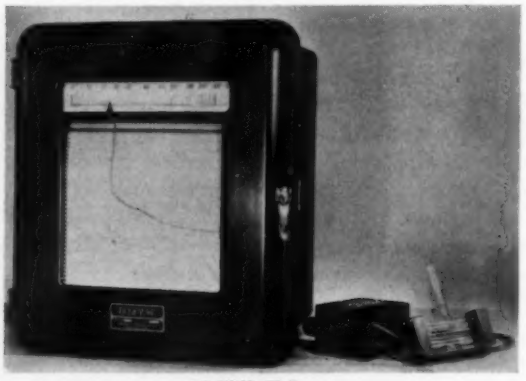
Separate sections are devoted to accessory equipment such as dampers, air equalizing grids, mounting rings and air sectorizing baffles.

It's all set up in a durable loose-leaf binder to facilitate the insertion of supplementary or revised data which will be forwarded from time to time to those who send for the catalog. It's free. Address Dept. D., W. B. Connor Engineering Corp., 116 East 32nd Street, New York 16, N. Y.

Precision Instruments

A new group of vacuum recording instruments designated TELEVAC has just been announced by Precision Scientific Co. of 1750 N. Springfield Avenue, Chicago 47, Illinois.

The type "MR" instrument with a range of 0-500 microns utilizes the new Televac 500 lb. Thermal Gauge with specially treated elements. Features of latter include coated filaments to prevent "off calibration" periods due to water, oil vapor or other contaminating vapors, increased sensitivity gained through use of two filaments in both standard and variable tubes of the vacuum gauge, all gauges are interchangeable without recalibration, and the user is assured of duplicate readings in terms of absolute pressure in microns. The gauge is supplied with a special Leeds and Northrup Micromax Strip Chart Recorder calibrated directly in microns.



"MR" Televac

The type "S" recorder for ultra vacuum contains two ranges—0-500 microns for pressures above 1 micron, and utilizing the 500 lb. thermal gauge in this range and an industrial type ionization gauge for the range 0 to 0.4 microns. Accurate readings may be obtained down to 10^{-6} mm Hg. (.001 micron). The type "S" instrument also features a safety circuit which makes it impossible to turn on the ionization gauge until a vacuum of 1 micron has been reached. Average life of ionization gauge is 3000 hours.

With this group of instruments a new line of fixed and calibrated variable leaks are to be listed.

"S" Televac

A new brochure is now being prepared containing all high vacuum instruments and accessories now available, and further information may be had by writing Precision Scientific Co., 1750 N. Springfield Avenue, Chicago 47, Illinois.

The Carrier Plan

The Carrier Corporation of Syracuse, New York, is known to you as a manufacturer of air conditioning equipment. I wonder if you were fortunate enough to read the article in the December 16th issue of the *Saturday Evening Post* in which the operation of the Carrier Institute of Business was described. The Institute was set up for the specific purpose of teaching employees everything about the business. Employees are taken into the full confidence of the management and no employee is denied the right to ask any question concerning the operations of the business which he may choose. The Institute holds periodic meetings at which executives from various divisions of the business explain the operation of their end and how it ties in with the whole. The talks are lively and employees are encouraged to ask critical questions. As one employee put it, he now feels that he is working for a business instead of a department.

In many plants, employees of one department are not even permitted to walk through another. They are told absolutely nothing about the business as a whole. Yet in the very same business, particular pains may be taken to prepare reports for stockholders, who although they have purchased the right to participate in the earnings of the business, have in most cases contributed nothing whatsoever toward it and in many cases, indeed, as is the case with listed corporations, the stockholder's cash or investment is not even used in the operation of the business. He simply bought his right to participate in the profit of the business in exchange for cash which went to the original holder of that right.

REPORTING ON THE

ALUMINUM SEAL SITUATION

A FEW MONTHS AGO it looked as though Alseco *Aluminum* Seals could be supplied to almost anyone early in 1945. But the picture has changed and here's how it looks now.

IN FEW WORDS, NOT TOO GOOD. Manpower and material are putting a two-way squeeze on our production just as they probably are on yours.

YOU MIGHT WONDER why *material* is a problem for us in view of the fact that aluminum is not so critical as it was a while back.

ALUMINUM INGOT *IS* PLENTIFUL, but aluminum sheet for making seals is not always available. Sheet mills, kept busy on a top priority war job, are rolling airplane skin most of the time.

WAR PRODUCTION plays an even more important part in the Alseco picture. Right now practically all of our capacity is required on aluminum seals for penicillin, serums, and intravenous solutions, and other supplies for the armed forces.

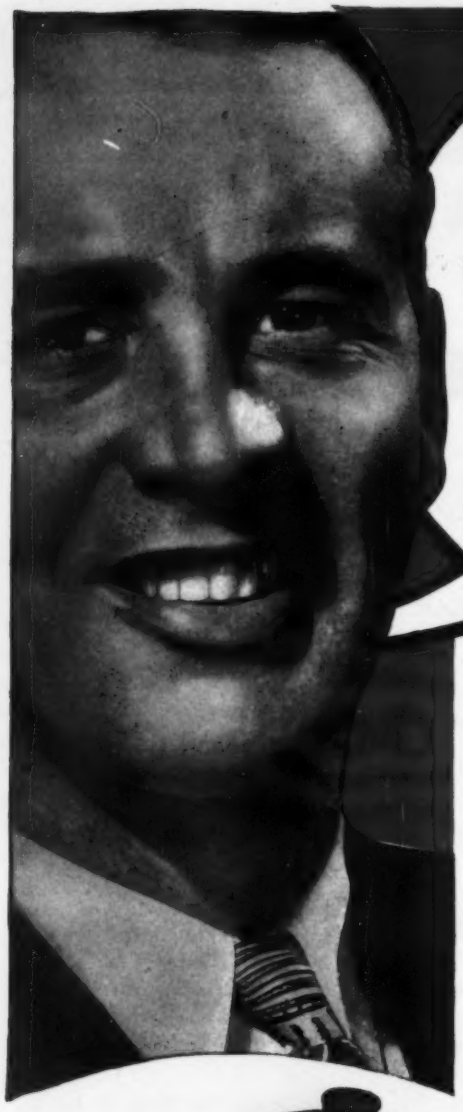
THIS PICTURE MAY CHANGE anytime, however. If you would like us to let you know when more Alseco *Aluminum* Seals can be supplied for civilian applications, we shall be only too glad to do so.

IN THE MEANTIME, certain Alseco Seals can be made of materials *other* than aluminum. We shall be happy to tell you what we can do in that line.

ALSECO SEALS *AND SEALING MACHINES*

ALUMINUM SEAL COMPANY • 1523 THIRD AVENUE • NEW KENSINGTON, PENNSYLVANIA

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



MY DRUGS? OF COURSE THEY'RE PACKED IN CANS!

CANS ARE SO TROUBLE-FREE!

Cans are safe—no breakage, no spoiled labels ...cans provide product protection, sales appeal

• "Take it from me, a drug manufacturer...and I'm sure I can speak for druggists and housewives, too...we all prefer drugs in *cans*. Here's why!

"Cans save us a lot of grief. They're safe to handle with wet hands...they don't break. Labels and directions lithographed on cans don't smear or come off. And waterproof cans protect their contents from bathroom moisture.

"Because they're light and compact, cans are economical to pack and ship. They save space in retail stores. Their smart, colorful labels stand out on crowded shelves...have lots of sales appeal.

"I'm thoroughly 'sold' on drugs in cans. Druggists and housewives are, too. It'll be a great day for the industry when cans become available again!"

DO YOU KNOW THESE

5 MAJOR REASONS

Why Housewives Prefer
DRUGS IN CANS?

1. Cans are safe when handled with wet hands.
2. Labels lithographed on cans can't drop off.
3. Cans protect contents from bathroom moisture.
4. Cans are more convenient.
5. Cans are more economical.

★

National Ad Campaign Tells Story Of Cans To Public

Ten national magazines and Sunday supplements coast to coast carry more than 30,000,000 printed messages each month to the families of America, telling them of the many advantages of the steel-and-tin can.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN

Too many managers treat their rank and file employees as aliens insofar as giving them general information is concerned, but at the same time they will bend over backward to impart all necessary information to parasitic stockholders. In one case this attitude was carried to the height of absurdity. A certain listed corporation goes to extremes to hush-hush everything. To tell an ordinary employee how much the sales are for any particular period is considered tantamount to the revelation of a state secret. Yet, all the employees have to do is buy a single share of stock which entitles them to the stockholder's report. This, indeed, is done by some of them and since they can't entirely understand the accountant's language in which stockholder's reports are usually couched, they misunderstand what they read, and consequently the grapevine buzzes with all manner of false rumors. The contradictory, senseless actions of some managements I know are damn hard to explain on a common sense basis.

Kron Scales

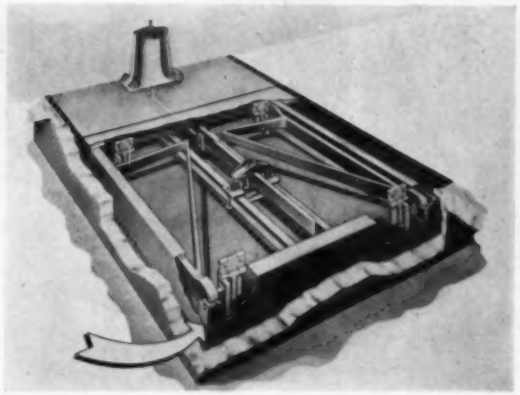
Kron Platform Scales, of both open construction and self-contained types, are built on a "free floating" principle and are designed to assure correct weight regardless of where the load is placed on the platform. Equal load distribution, spreading the same weight through all four platform corners, permits a hand lift truck, skid, pallet or any other load to be positioned on any part of the platform at no sacrifice in accuracy. This advantage not only cuts weighing costs, but it also speeds up weighing time since the load need not be centered on the platform in order to obtain a true weight reading.

This "free floating" platform construction prevents lateral platform motion from being transmitted to the platform lever system. It absorbs all swinging motion and results in pivot and bearing wear only when a load is actually weighed. In addition, this construction eliminates binding and friction, thus lengthening pivot and bearing life and lowering maintenance and replacement costs.

The self-contained dormant platform is extremely shallow and will fit into floors of wood, metal, composition or concrete requiring a minimum of depth. This is made possible by the method of suspension with the main platform levers being in the same plane.

The open construction dormant platform is built on a structural steel "H" frame on which the entire lever system is mounted, keeping all corner fulcrum supports in permanent alignment. Both self-contained and open construction types of Kron dormant platform scales can be shifted from place to place without damage or loss of accuracy.

All upper and lower platform frames are constructed entirely of structural steel plate and shapes permitting great strength in a minimum of space. Lever, fulcrum and leg castings are normalized and well seasoned before being machined, free of stress and distortion. Pivots and bearings are made of special analysis steel



alloys, ground to existing limits. All pivots, bearings and loops are given a plated coating to prevent corrosion.

Kron Scales are available for weighing, counting, batching, testing, measuring. A catalog of models is available through the maker, The Yale & Towne Manufacturing Company, Philadelphia Division, Philadelphia, 24, Pa.

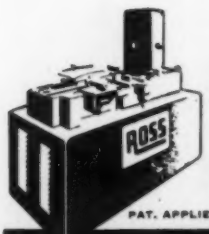
Dorrco Deionization System

The Holland-Rantos Company, Inc., 551 Fifth Avenue, New York, has recently installed the Dorrco D-1 Unit as pictured. This is the first installation of its kind in the pharmaceutical industry and the Holland-Rantos Company is justly proud of it.

The Dorrco D-I Unit, as installed at their plant is a compact unit with the cation and anion exchanger cells, piping, valves, regenerant tanks, etc., completely enclosed. Its capacity is 4 gal./min. The unit is designed with operating control features which make its operation simple.

An economical operation

Economy of operation is the purpose behind every ROSS Automatic and Semi-Automatic adjustable packaging machine. Experience from our exceptional War Record has been along the lines of high precision parts for close tolerance . . . thus the new ROSS packaging machine is composed of standardized, high precision parts — no oiling, all moving parts self oiled. Speedy, versatile adjustability thru precision dial controls. ROSS automatic and semi-automatic machines have Master Speedrangers giving speeds from 40 to 120 a minute or greater. Look to ROSS for assistance in your packaging problems. Write for complete information.



A. H. ROSS & Co. LUDLOW • KENTUCKY

PACKAGING MACHINERY

By this De-ionization system water is produced equivalent to distilled water with a specific resistance of 250,000 ohms. This water is used for process water and has replaced distilled water in the laboratory; that is, that the mineral content is reduced to two parts per million expressed as calcium carbonate. It can be reduced to as low as a half a part per million.

Common Sense in Conversation

The following quotation appeared in a recent Sunday Edition of the *New York Times*. It was prepared by James F. Bender, Consultant The National Institute for Human Relations. It was entitled "Why People Tune Out" but it should have been called "Common Sense in Conversation." The quotation is reproduced in its entirety because I think it shqulld be reprinted, particularly in every sales training manual in the industry:

A CHECK-LIST of 100 commonly recognized annoyances pertaining to speaking was distributed among 250 men and women of college education who were asked to number them: No. 1 representing the most annoying habit; No. 100 representing the least annoying. The twenty-five most frequently numbered from 1 to 25 serve as a helpful check-list in estimating one's own speaking effectiveness or that of an acquaintance. They are:

1. Talking in an affected manner.
2. Talking with a large amount of saliva in the mouth.
3. Using outlandish gestures while talking with others.
4. Speech marked by baby-talk.
5. Talking with a tight jaw so that words are mumbled and difficult to understand.
6. Discussing private affairs so loudly in public that they are overheard.
7. Stuttering.
8. Lisping.
9. Speech that is cluttered with such expressions as, "If you know what I mean," "D'ya get me?" "I'm telling you."
10. Talking a great deal without saying very much.
11. Introducing many topics which are not related to the subject under discussion.
12. Not paying attention to the speaker or looking at him.
13. Habitually asking people to repeat questions or remarks.
14. Monopolizing the conversation.
15. Talking in a halting manner, the "er-er" or "and-er" habit.
16. Talking to others with food in the mouth.
17. Interrupting speakers in the middle of a statement.
18. Arousing curiosity about something and not talking about it.
19. Using a shrill or husky voice.
20. Not contributing a share to the general conversation.
21. Whispering in the presence of others.
22. Using words unsuitable to the understanding of the auditors.
23. Using "five-dollar" words when simple ones will serve as well.
24. Speaking in a monotonous voice.
25. Speaking in a nasal twang.

Counting Scales

Many firms in the drug and cosmetic industry are assembling many devices as part of their war work. Counting small metal parts is often an expensive time consuming operation. KRON counting scales cut such material handling costs and bring a new high in accuracy to stock records. They are available in a wide variety of models to meet every counting requirement which is determined by the size, weight, and average quantity of parts to be counted. Extremely sensitive, they assure swift and accurate counting of even the smallest and most lightweight parts.

KRON counting scales are available in single-fixed, double-fixed and triple-fixed ratio types, and can be supplied in the following standard counting ratios to meet specific requirements: 9:1, 49:1, 99:1 and 999:1; also 10:1, 50:1 and 1000:1. These ratios can be supplied in any combination needed for the precise counting of parts of any size and weight or of any quantity.

All KRON counting scales are available in dormant platform, portable platform and bench types. They also function as precision industrial weighing scales since no adjustments of any kind are needed for the change-over from counting to weighing operations.

For complete information about KRON industrial dial scales, write The Yale & Towne Manufacturing Company, Philadelphia Division, Philadelphia 24, Pa.

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SERIES 200-25 ROTARY TABLET PRESS

The design of the Series 200-25 Tablet Machine is an outstanding engineering achievement, the culmination of years of experience in building tablet machines. This compact machine incorporates refinements that provide an entirely new standard of performance for this type of equipment.

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For your small penny packages and sample packages, this modern duplex cartoner answers all your requirements for high-speed production, since it operates at a speed of 150 complete packages per minute.

The machine is a duplex type, there being twin carton supply magazines, twin tuckers and twin filling chutes which fill two cartons simultaneously. The filling can be done by count or volume, depending on the product, accurate results being obtained either way.

The machine can be equipped for cartoning only, or for cartoning and lining, or for cartoning and wrapping, or a complete job of cartoning, lining and wrapping. When the machine is equipped with lining and wrapping units, the liners and wrappers are automatically cut from a roll and inserted into the carton.

The illustration above shows MODEL C-21-W which cartons small cough drop and candy packages and wraps the completed carton in cellophane at a speed of 150 packages per minute.

Cartoned and wrapped on the Model C-21-W at the rate of 150 packages per minute.

Send U.S. details on any of your packaging problems—we have the machines and the engineering background to help solve them.

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These pressure filters are closed by a single hand wheel and are fitted with a quick opening thrust block. The entire absence of all rubber washers eliminates leakage, since the filter pads are self sealing.

Both filters are available in the polishing type, using asbestos pads. Also in the clarifying, or, pre-filter type, using modern filter aids to give maximum flow rates.

Write for details and for deliveries on STERILFLO and CLARIFLO Asbestos Filter Pads.

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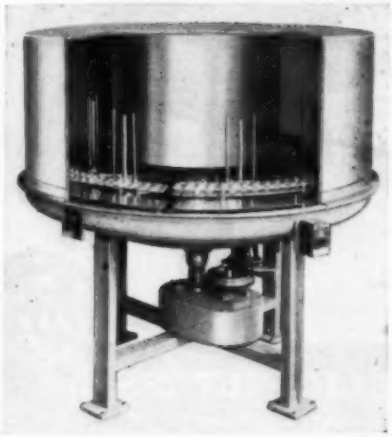
Are you planning and preparing for your bottling machinery needs? We can help you in this planning and as far as practical, supply you with many of your needs.



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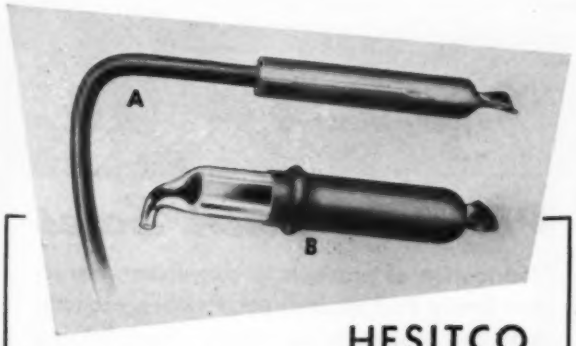

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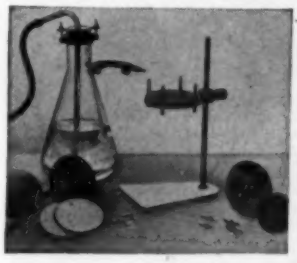

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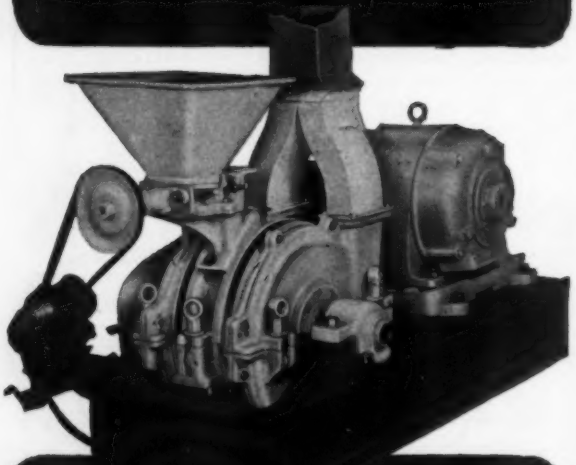

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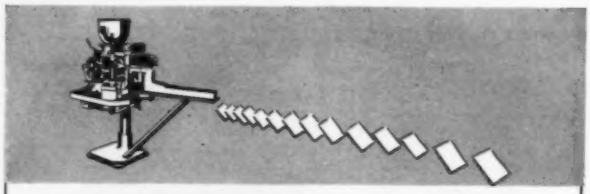

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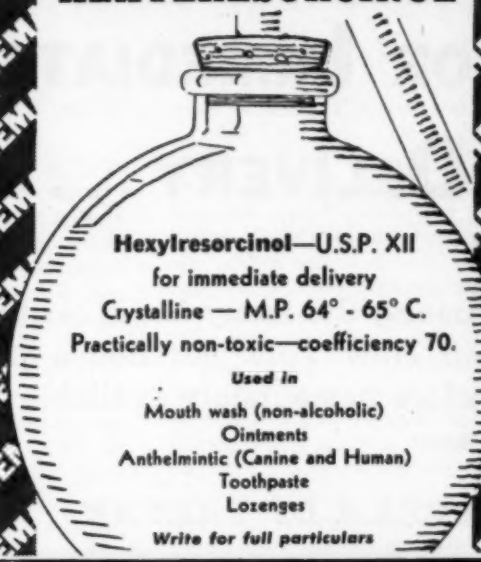

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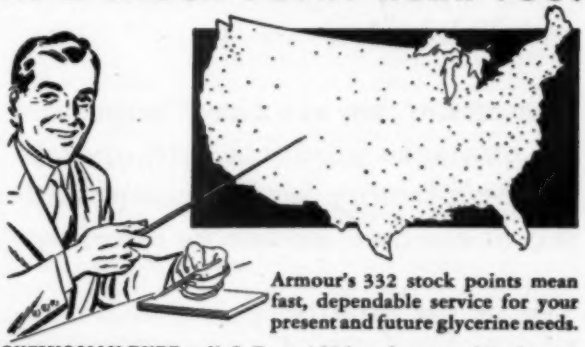

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Industry's Books

Pharmacy, by Earl Peter Guth, 24 pp., Bellman Publishing Co., Boston, 50c.

This monograph is one of a series of seventy-five occupational booklets used in connection with guidance activities wherever general counselling work is conducted and for individual reference purposes in the choice of a career. It was designed to supply the following information with relation to pharmacy: Personal qualifications required for engaging in the work. Scholastic training needed. Complete analysis of employment opportunities. Remunerations received. Chances for advancement. Frank statement of advantages and disadvantages. Possibilities for both men and women in the vocation or profession.

Commercial Methods Of Analysis, by Foster Dee Snell, A.M., Ph.D., and Frank M. Biffen, B.Sc., F.R.I.C., First Ed., 753 pp., McGraw-Hill Book Co., New York, $6.

This work covers practical analysis of typical commercial products in over 700 pages of clear, concise, and dependable methods and explanations. Procedures and calculations for hundreds of determinations are given, as well as many pointers on the general approach to analysis of unknown samples and on the reasons behind many steps of the work. Special emphasis is placed on time-saving methods, sufficiently exact for the required purpose in the efficient commercial laboratory.

Your Servant the Molecule, by Walter S. Landis, 238 pp., Illus., The Macmillan Co., New York, $2.75.

How chemistry serves the daily needs of mankind makes a fascinating story. Your blankets, soap, newspaper, clothing—all the necessities and luxuries that you take for granted—have been transformed by painstaking research and scientific skill from raw materials into useful objects. Here a brilliant chemist—long associated with the American Cyanamid Company—tells the layman, in a readable, non-technical way, how these things are done, revealing the universal character of the chemist's contribution and the broad field in which he works.

The Analysis And Interpretation of Symptoms, Edited by Cyril M. MacBryde, M.D., 302 pp., J. B. Lippincott Co., Phila., $4.

The articles in this book give the basis for analysis and interpretation of some of the commonest symptoms which bring patients to the physician. Emphasis is placed upon the pathologic physiology of the symptom, while its correlation with other symptoms and with physical and laboratory evidence is considered as important but secondary in the diagnostic method. While knowledge concerning many of these symptoms is incomplete and is as yet rapidly expanding, critical and analytical thinking in the manner followed in the chapters of this work should prove productive for patient, practitioner, professor and student.

Fundamental Principles and Processes of Pharmacy, by Henry M. Burlage, Ph.D., Professor of Pharmacy, University of North Carolina, Joseph B. Burt, Ph.D., Professor of Pharmacy, University of Nebraska, Charles O. Lee, Ph.D., Professor of Pharmacy, Purdue University, and L. Wait Rising, Ph.D., Professor of Pharmacy, University of Washington, First Ed., 615 pp., McGraw-Hill Book Co., New York, $4.50..

This is a text for beginning students in pharmacy which assists them in learning the professional and commercial aspects of pharmacy, in studying requirements, and in evaluating opportunities in the field. In order to provide students with comprehensive orientation material the authors have devoted the first six chapters to the historical development of pharmacy, to a concise statement of principles for its practice, to the literature essential to the maintenance of standards, and to a study of the modern pharmaceutical curriculum with definitions and purposes of the courses in the program of study.

The Production Credit System For Farmers, by Earl L. Butz, 104 pp., The Brookings Institution, Washington, $1.

The Production Credit system for farmers has operated for over ten years as one of the component units of the Farm Credit Administration. This study examines the agricultural financing being done by this agency in relation to the job which Congress intended it to do, analyzes the current financial position and operating efficiency of the system, looks into the amount and effect of the federal subsidy, and outlines a broad policy for future action. The author asks whether the financial aid to this particular credit institution is disproportionate to the public benefits received or greater than necessary. He outlines a program under which the participants in the system itself would carry out a vigorous and conscientious reduction of government aid. Although the study primarily concerns a single federal credit institution, it finds wider application in the appraisal of a broad tendency in recent economic development which involves the question of government's relations to economic life.

Business Leadership In The Large Corporation, by Robert Aaron Gordon, 369 pp., The Brookings Institution, Washington, $3.

With emphasis on the personal and volitional factor in business leadership, the author of this book seeks to discover who in fact are our business leaders and how they exercise their role of leadership. He has written for both the business man and the professional economist. His analysis is based on a detailed study of the organization and functioning of large-scale business. The leadership activities of executives, directors, stockholders, bankers, the government, labor, and certain other affected groups are each considered in turn. The author's findings stress the key role of the salaried executive, the passivity of most boards of directors, and the fact that "control" by minority groups, bankers, and others can mean anything—from being completely inert to actively participating in management. An important feature of the volume is the array of data it brings together as to the separation of management and "control" from ownership and as to the stockholdings and compensation of managers.

ADVANCING THERAPY

Carbamates and Bacterial Growth

Many workers have shown that urea has antibacterial properties, but it is not so well known that other carbamates display similar qualities. Investigations reported by L. Weinstein and A. McDonald in *Science* (101:44, 1945) indicate that urea and urethane are both bacteriostatic and bactericidal for many organisms, that they antagonize slightly the sulfonamide inhibitors and that they increase the solubility and bacteriostatic activity of the sulfa drugs. Urethane appears to be greatly superior to urea in all respects. It was found that the combination of non-bacteriostatic amounts of urea and urethane with non-bacteriostatic quantities of sulfanilamide produced pronounced inhibition of bacterial growth.

Studies of the effect of other urea derivatives such as propyl and butyl carbamate showed that bacteriostasis is produced by lower concentrations than those necessary with either urea or urethane. Comparative evaluations indicate that the activity of the four carbamate compounds tested against bacteria appears to be in the following order; most active is butyl carbamate and least effective urea, with urethane and propyl urea occupying a middle ground.

Sulfadiazine as a Respiratory Disease Prophylactic

During the month of January, 1944, reports R. G. Hodges (*New England J. Med.* 231:817, 1944), hospital admissions for streptococcal and pneumococcal infections from an Army Air Force technical school rose abruptly and alarmingly. The experience of the preceding year suggested that serious and prolonged epidemics were beginning. The decision was made to try the prophylactic use of sulfadiazine, the organization of the school and the character of its component troops providing an ideal population for a controlled experiment.

Administrations of sulfadiazine were made throughout the months of February and March. In each instance the results appeared to be clear cut and beneficial. The most striking effect was on beta-hemolytic streptococcus infection. It appeared that streptococcal sore throat and scarlet fever could be reduced almost to zero. There was a less marked but still significant effect on pneumococcal infection. Sixteen weeks after the onset of the epidemic of streptococcal infection the incidence of acute rheumatic fever was well below the expected rate. Ordinary respiratory disease also showed a response to the drug.

A variety of dosages was tried. It is believed that the optimal dosage for a given group should be worked out individually. No serious untoward reactions occurred.

Penicillin Effective Against Anthrax

Although the introduction of more rational and effective methods of prophylaxis and treatment has lowered the occurrence and death rate in anthrax, the disease continues to carry a significant mortality. In view of laboratory observations that high concentrations of penicillin could inhibit the growth of *Bacillus anthracis*, F. D. Murphy, A. C. LaBoccetta and J. S. Lockwood (*J.A.M.A.* 126:948, 1944) tried the antibiotic agent in three cases of anthrax. Exceedingly prompt and excellent clinical response to penicillin was observed in every case. Bacteriologic studies showed that there was rapid disappearance of *B. anthracis* from the cutaneous lesions after administration of penicillin.

Although, as far as is known, this is the first report on the use of penicillin in the treatment of patients with cutaneous anthrax, these workers are of the opinion that penicillin is a valuable agent in the treatment of human anthrax and deserves further clinical trial in this disease.

Vitamin Combination in Muscular Dystrophy

Muscular dystrophy is a disease in which affected muscles degenerate and weaken. Experimental observations on a group of 15 patients with this condition, made by A. T. Milhorat and W. E. Bartels (*Science* 101:93, 1945) have indicated that this condition closely resembles the muscular dystrophy induced by deprivation of tocopherol (vitamin E). Feeding animals this vitamin restores muscular function, but in humans tocopherol, it has been found, must be supplemented by inositol, a member of the vitamin B complex. A condensation product of tocopherol and inositol has been prepared and studied.

The investigators suggest that tocopherol forms a condensation product with inositol in the gastrointestinal tract and that the inherited defect in muscular dystrophy is a deficiency in this reaction of condensation. The degree of this deficiency appears to determine the rapidity with which the disease progresses. Patients with mild forms of the disease can synthesize sufficient amounts of the condensation product when large amounts of both tocopherol and inositol are given together, but those in whom the disease is more rapidly progressive will probably require the condensation product itself. Further investigations are in progress.

Penicillin in Tetanus Therapy

In view of the high mortality of tetanus, even when treated with large doses of tetanus antitoxin, the use of penicillin in the treatment of this condition takes on added significance. In two cases reported by R. Buxton and R. Kurman (J.A.M.A. 127:26, 1945), penicillin was used in conjunction with tetanus antitoxin. In both instances the patients were discharged as cured. In view of their observations, these writers feel that the addition of penicillin to the accepted tetanus treatment is "apparently a life saving measure."

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British View on Penicillin Uses

According to H. B. May, in the *British Medical Journal* (2:817, 1944), the types of case in which penicillin is likely to be of value in civilian practice are indicated by the conditions treated in the first three months in which British penicillin was freely available. From the observations made during this period, he is of the opinion that the general practitioner will probably use penicillin cream locally more often than any other preparation of the substance. Therefore, sterilized penicillin cream base should be available to practitioners and pharmacists, who will then be quite capable of making up the cream from penicillin tablets.

With adequate instruction patients can carry out treatment of skin conditions with penicillin cream quite successfully in their own homes.

May remarks that the consumption of penicillin is largely conditioned by the number of cases needing systemic treatment, and this was smaller than was anticipated.

Prevention and Treatment of Dermatophytosis

According to L. H. Warren, in his discussion of military dermatology in the *Annals of Internal Medicine* (20:395, 1944), dermatophytosis (e.g. athlete's foot) is the skin disease most responsible in the tropics for incapacitated personnel. He therefor goes into detail on methods for preventing and treating this condition.

For prophylaxis of dermatophytosis, Army issue foot powder is recommended. This consists of 2% salicylic acid, 6% boric acid, 1% desiccated alum, 3% zinc stearate, 10% starch, and 78% powdered talc. Powder, by increasing the surface area of skin, promotes evaporation, cooling and drying, and thus counteracts effects of heat and maceration which favor fungus infections. Feet should be washed frequently, dried thoroughly and the socks boiled or rinsed in sodium or calcium hypochlorite solution containing 20 parts per million of residual chlorine. In addition, an aqueous solution of sodium or calcium hypochlorite containing 50 to 100 parts per million of residual chlorine, tested at daily intervals, should be used in a shallow footbath in the runway leading to shower rooms.

The acute stage should be treated simply as an acute dermatitis, without attempts at fungicidal action. Wet dressings or soaks of saturated boric acid solution, or Burow's solution of aluminum acetate diluted 1:16 are recommended.

The pustular type should be treated with soaks or compresses of 1:2,000 potassium permanganate solution. Sulfonamides by mouth or combined in a foot powder may be indicated in some instances, particularly in treatment of secondary cellulitis.

After most of the vesiculation has subsided, it is safe to proceed with (1) Army issue or similar foot powder, (2) keratolytic and fungicidal solution of 6% salicylic acid and 12% benzoic acid in alcohol, (3) Castellani's paint, consisting of 1% boric acid, 5% acetone, 10% resorcinol in a sufficient quantity of Ziehl's carbol fuchsin solution, (4) Whitfield's ointment consisting of 6% salicylic acid and 12% benzoic acid in petrolatum. It is always safer to begin with half-strength Whitfield's ointment and increase this to full strength after 5 to 7 days. In the tropics, Castellani's paint is preferable to ointments.

Of related interest is the report of J. S. Snow (*Military Surg.* 95:147, 1944) on the management of dermatophytosis. He advocates that treatment of mild and moderate cases should be started at first warning of itching and scaling about the toes, instep or heel. For ambulatory patients a liquid preparation is desirable and should be applied at bedtime after thorough washing and drying. The following prescription can be compounded in bulk and dispensed in one-ounce bottles labeled: "Paint lesions carefully once a day."

Thymol	**0.5**	**per cent**
Salicylic acid	**3.0**	**" "**
Benzoic acid	**3.0**	**" "**
Ethyl alcohol, 70%, tinted pink with acid fuchsin, to make	**100.0**	**" "**

Polyvinyl Alcohols as Blood Substitutes

Polyvinyl alcohol (PVA) has received considerable study because of its possibilities as a blood substitute. Further progress along these lines appears in the report of N. W. Roome, L. Ruttle, L. Williams and W. Smith (*Canadian M.A.J.* 51:293, 1944). They compared the supportive effect on the blood pressure of several grades of polyvinyl alcohols with the materials after severe hemorrhage. Their experiments were made on dogs, in which half of the blood removed was replaced by various agents including citrated dog blood, citrated plasma, acacia and three grades of polyvinyl alcohols. The studies revealed that polyvinyl alcohol Rh623 is a suitable colloid for a plasma substitute. It maintained the blood pressure as well as did blood transfusions. It was lost from the blood stream in dogs at about the same rate at which the plasma proteins regenerate. Solutions of 4 per cent polyvinyl alcohol Rh623 were given to 4 human subjects. There were no untoward effects. Dilution of the blood occurred and persisted for twenty-four hours after large doses.

These workers feel that if limited to its proper field polyvinyl alcohol would appear very desirable as a first treatment for hemorrhage or shock, assuming that hemostasis can be obtained or that direct bleeding is not a prominent feature. Its small cost, ease of preparation and stability in storage would permit keeping it available for emergency use in amounts larger than can be economically kept in a blood or plasma bank.

Status of Amino Acids

Much concise information on the amino acids appears in an item in the British publication, *The Retail Chemist* for December 1944. Here it is pointed out that during the last year or so attention has become sharply focused on the role played by amino acids in medical and surgical treatment. It is now some time since the chemical study of proteins showed that some of them lacked certain amino acids and subsequent nutritional studies showed that unless certain amino acids are present, the protein is lacking in nutritional value and in animals fed on such proteins growth is retarded and a perfect physiological balance cannot be maintained. According to our present knowledge, there are at least ten essential amino acids that are necessary for the correct nutrition of the laboratory white rat, which gives a satisfactory nutritional response when these products are utilized as the main sources of nitrogen in the diet. There is evidence that nutritional needs in this direction vary with the species and that the findings in the rat and other experimental animals do not necessarily apply to man, and furthermore it is not certain that the remaining portion of the protein molecule may not play an equally important part in nutrition. Bacterial synthesis in the intestine also plays a part in providing amino acids as it also seems to do in the synthesis of certain vitamins, which raises the question of the maintenance of a correct bacterial flora in the intestine. From the work that has been carried out recently, it seems certain that amino acid therapy will play an increasingly important part in future therapeutic practice.

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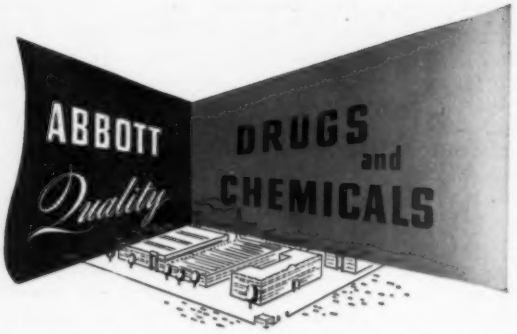

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Hydroxy Citronellal

The basic raw material from which Hydroxy Citronellal is made is Oil of Citronella Java, importations of which were plentiful until Japan took over the Dutch East Indies. The only remaining source of raw material is Guatemala where some oil is produced but not nearly enough for present demands. Oil of Citronella Ceylon being of a different species does not yield any raw material for its manufacture but Eucalyptus Citridora has made an excellent starting point from which a satisfactory product can be made. The odor quality is slightly different but if well processed it has been found to be very satisfactory.

During World War I Hydroxy Citronellal sold at a price of $72.00 per pound all of it being imported from Europe. Shortly after the war Antoine Chiris manufactured Novotone which was the trade name for this product and shortly thereafter other companies started its manufacture.

To date the aromatic chemical manufacturers have given the perfumers marvelous support but there is no doubt that a serious shortage has developed due to the lack of raw material and will continue until after the war.

Without Hydroxy Citronellal the perfumer will experience extreme difficulty in making such products as Apple Blossom, Lilac, Lily, Jasmine and many other flowery bouquets but here again it is hoped that a new method of manufacturing will be discovered or that a new aromatic which will approximate it will come into being.

Perfumer's Shelf

Pine Bark Oil

In a report on pine bark oil, K. Pajari (*Fette u. Seifen.* 50:465, 1943, through *Chem. Abstr.* 39:206, 1945) states that an oil obtained by petroleum ether extraction displayed the following constants:

Index of refraction, at 20°C.	**1.4879**
Specific gravity, at 20°C.	**0.9775**
Acid number	**17.79**
Saponification number	**174.87**
Iodine number (Hanus)	**123.23**
Acetyl number	**40.55**
Reichert-Meissel number	**4.15**
Polenske number	**0.40**
Unsaponifiable fraction	**11.92 %**
Total sterols	**7.90 %**
Phosphatides	**2.73 %**

The fatty acid composition was: 8.54 per cent saturated fatty acids (containing lignoceric and palmitic, but no stearic acid), 50.38 per cent oleic acid, 13.89 per cent linoleic acid, and 27.91 per cent linolenic acid. Resin acids, which occur in the free state and also as esters, could not be crystallized from any of several solvents.

Definition of a Volatile Oil

In answer to the question, "What is a volatile oil?" L. Rosenthaler (*Pharm. Acta. Helv.* 19:213, 1944) responds by stating that a volatile oil is defined as a volatile liquid prepared from plant materials which possesses a characteristic odor, is difficultly soluble in water and which can be solid at a temperature under 25°C.

Chemistry of Vanilla Curing

Bulletin No. 42, "Vanilla Curing and Its Chemistry," is the result of studies made by F. A. Arana at the Federal Experiment Station of the U. S. Department of Agriculture, Mayoguez, Puerto Rico. Presenting considerable detailed data, the results of these investigations are summarized as follows:

An experiment was carried out to evaluate statistically several commercial vanilla-curing methods and others devised at the laboratory. In general all the methods gave a satisfactory product. The Guadeloupe killing treatment, which involves scratching the beans with a pin, appeared to be superior in all criteria of evaluation except appearance and susceptibility to mold. The beans killed by freezing had practically no mold and a very suave aroma but ranked medium in other respects. The ethylene treatment acted more as a maturing than as a killing agent. Oven sweating was found to be superior to sun sweating as to time required for sweating and drying, and mold development.

The intensity of reddish-brown color and the total solids, vanillin, and resin contents of the beans were found to increase consistently with the degree of maturity of the beans.

Weight loss, other than that due to loss of water, was negligible during curing. Moisture content approached a steady value during the first 3 months of conditioning. The optimum moisture content of cured beans was considered to be from 30 to 35 per cent. A nomograph is given showing the weights to which 100-pound lots of beans should be reduced during curing to obtain a given moisture content in the end product.

Studies on the glucovanillin content and its distribution in the beans are discussed. The distribution and action of the β-glucosidase which hydrolyzes the glucovanillin is also pointed out.

The presence of a peroxidase system and its role in the curing process was considered.

The rate of over-all oxidation in the beans after various killing treatments and during the curing process was determined by measuring the carbon dioxide given off.

Preliminary experiments were carried out on the effect of hydrogen sulfide, oxygen, nitrogen, and hydrogen peroxide on the formation of vanillin. The hydrogen sulfide treatment resulted in lower vanillin content and retarded development of brown color.

Peppermint Oil and Menthol

According to S. C. Saunders in *Foreign Commerce Weekly* for May 27, 1944, the first peppermint plants grown in the United States are said to have been brought from England about 1816. They came in sacks with earth around the roots for protection. First plantings were in the State of New York, but later the cultivation of mint spread toward the West. At present most of the United States supply of domestic peppermint oil is grown in the States of Michigan, Indiana, Ohio, California, Oregon, and Washington. In 1942 these States had a total acreage in pepper-

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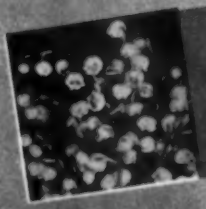

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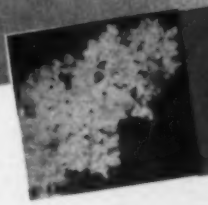

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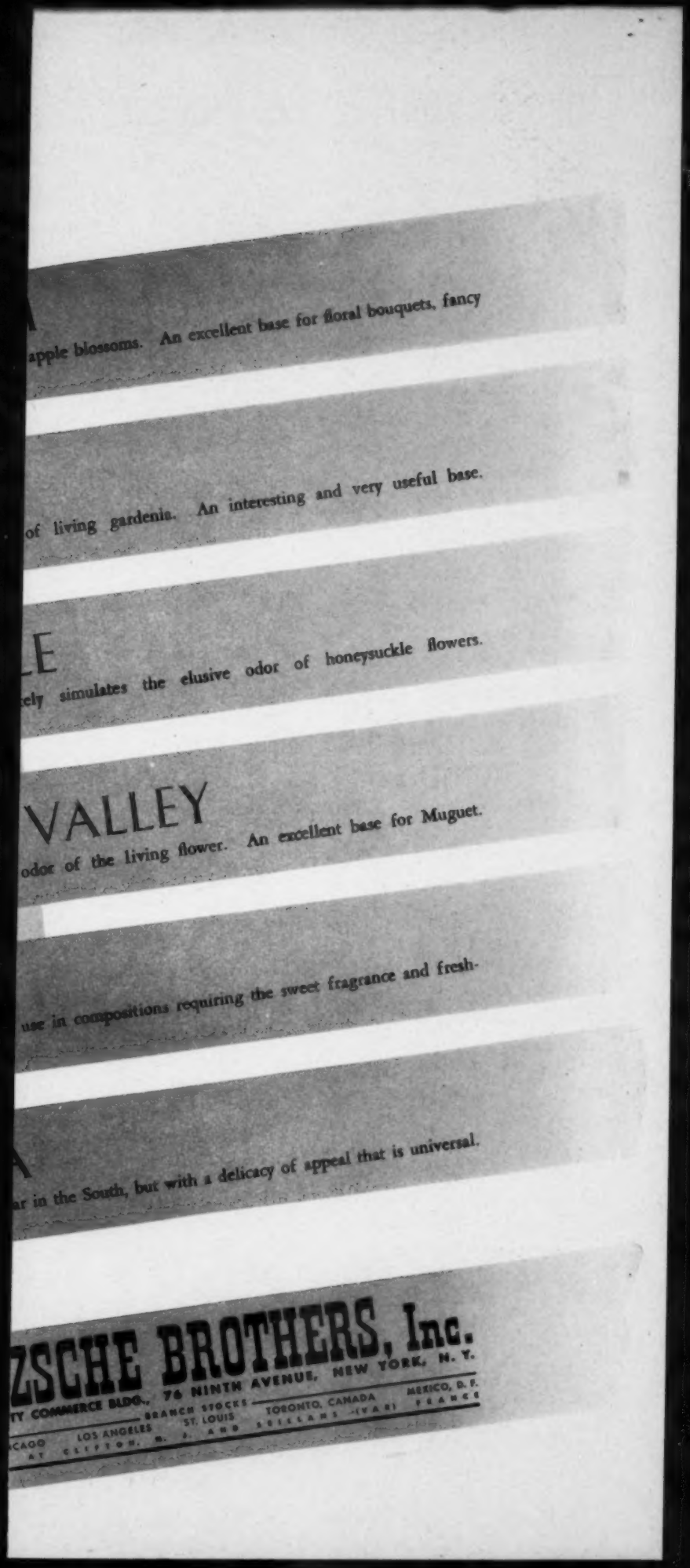
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mint of 42,095 with a total production of 1,435,000 lbs. of oil. The 1943 season saw a drop in acreage to 36,710 and in production to 815,000 lbs. of oil.

To date it has not proved economical to cultivate peppermint in the United States for the extraction of menthol. This product, which is widely used in pharmaceuticals, cosmetics, dental and shaving preparations, confectionery, liqueurs, and cigarettes, is primarily made from oil of peppermint. There are three possible commercial sources of U.S.P. menthol—*Mentha arvensis*, var *piperascens*, or Japanese mint; *Mentha piperila*, or common peppermint, which is grown in the United States; and oil of citronella (Java type). Oil of peppermint, Japanese type, has been the source of the greater part of the menthol produced in the world.

An optimum menthol yield of from 50 to 55 per cent is possible from United States peppermint oil, but it cannot be obtained with present processing equipment; Japanese mint, on the other hand, yields as high as 85 per cent U.S.P. menthol. In addition to the small menthol yield, extraction of menthol from American peppermint oil requires both distillation and freezing, which increases the cost considerably. Crude Japanese oil has such a high menthol content that simply freezing the oil isolates the menthol. American peppermint is limited to one crop each year, the plants being cut in early fall. Japanese mint, in contrast, can be expected to provide two cuttings.

Thermal Isomerization of Pinane

The objective of the work undertaken by A. L. Rummelsburg and reported in the *Journal of the American Chemical Society* (66:1718, 1944) was to determine if a fission of the rings can occur by vapor-phase thermal isomerization of pinane (dehydropinene) to form dihydroacylic terpenes. Pinane was flash-evaporated at 285° C. and isomerized at 495-515° C. and a contact time of about 5 seconds; pinane was passed into the system at a liquid rate of 1,550 cc. per hour. The isomerization product obtained had the following constants:

Specific gravity	**0.8222**
Index of refraction	**1.4500**
Specific rotation	**10°**

The percentage yields of the several distilled fractions were obtained and the characteristics of the isomerized pinane fractions were determined. It was found that 30 to 40 per cent of dihydroacylic terpenes are formed by the isomerization. In addition, about 20 to 40 per cent of dihydromonocyclic terpenes, probably including some menthenes, are formed. The remainder of the identified material (20 to 30 per cent) in the reaction mixture is unchanged pinane.

Selective Hydrogenation of Eugenol and Isoeugenol

In discussing the selective hydrogenation of eugenol and isoeugenol, B. Gauthier (*Compt. rend.* 217:28, 1943, through *Chem. Abstr.* 39:285, 1945) reports that eugenol absorbs two hydrogen molecules in the presence of Raney nickel more readily and at a lower temperature than does isoeugenol. Conjugation of the ethylenic link with the ring seems to render hydrogenation more difficult in general with compounds of this type.

Physical constants are given for the following derivatives of dihydroeugenol:

	Boiling Point (in deg. C.)	*Index of Refraction*	*Specific Gravity*
Formate	140	1.5120	1.0854
Acetate	149-50	1.5058	1.0576
Propionate	154-5	1.5020	1.0428
Isobutyrate	158	1.4959	1.0234
Butyrate	164	1.4981	1.0264
Isovalerate	170	1.4930	1.0098

The melting points only are given for the following derivatives of dihydroeugenol:

para-Nitrobenzoate	**76°C.**
Cinnamate	**88°C.**
Phenylurethan	**122°C.**
Diphenylurethan	**104-5°C.**

Simpler Synthesis of Indole

Because of the scarcity of natural flower oils, says A. Treffler in *Chemical Industries* (56:67, 1945), synthetic indole and its homologs hold special interest for perfumers. The use of these aromatic chemicals enables the expert perfumer to reproduce more closely the odors of natural jasmine or orange flower oils, the odor of many other flower compositions and, with skatole, the odor of civet.

The flower odor, which develops upon dilution with water or blending with other aromatic chemicals, is a characteristic of three different indoles:

	Melting Point	**Boiling Point**
Indole	**52.5°**	**253° (760 mm.)**
2-Methylindole (α-methylindole)	**60.0°**	**272° (760 mm.)**
3-Methylindole (β-methylindole skatole)	**95.0°**	**265° (755 mm.)**

Many methods are known for the synthesis of indole, notes Treffler, but these processes, though apparently simple in their reactions, give relatively poor results. After experimenting with several procedures, he obtained the best results by an apparently new method of synthesis. This method is based upon the reaction of α,β-dichloroethyl ethyl ether, $CH_2Cl.CHCl.OC_2H_5$, with aniline in the following procedure:

Fifty grams of aniline and 50 Gm. of water are heated to boiling, 25 Gm. of dichloroether added gradually and heated for one hour. The water and the excess aniline are distilled off, and the residue heated for about 4 hours at 210-230°C. Upon distilling the product with steam, indole passes over and may be purified by conversion into the picrate. During the reaction ethylidene dianiline is formed first, which decomposes at a higher temperature into indole and aniline according to the equation:

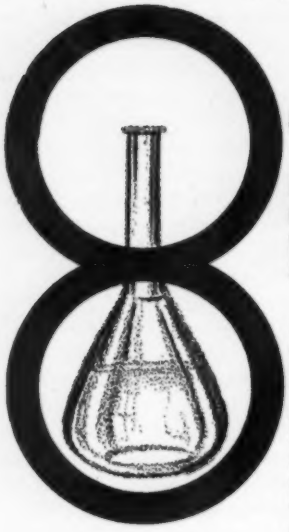
$$C_6H_5.N{:}CH.CH_2.NH.C_6H_5 \longrightarrow C_8H_7N + C_6H_5NH_2.$$

Indole crystallizes in leaflets from water, is easily soluble in alcohol, and fairly soluble in hot water.

In reviewing the preparation of the other indoles, he remarks that 2-methylindole, characterized by a very pronounced flowery odor, is best prepared by a method of Emil Fischer. Skatole, the most important of the indole homologs, is also best prepared by a method of Emil Fischer.

Studies on Isopropyl Alcohol

In view of the increasing employment of isopropyl alcohol in the manufacture of perfumes, lotions and the like, as a substitute for ethyl alcohol, the studies of A. J. Lehman and H. F. Chase (*J. Lab. & Clin. Med.* 29:561, 1944) on the acute and chronic toxicity of the alcohol have definite pertinence. Isopropyl alcohol, as determined in several species of laboratory animals after various routes of administration, was found to be approximately twice as lethal as ethyl alcohol. Chronic effects are slight. When male rats were given water containing 0.5 to 2.5 per cent for twenty-eight weeks, the growth curve was slightly less than that of the controls for about thirteen weeks and then became 5 to 9 per cent greater. With female rats the weight was about 12 per cent less. There was no evidence of delayed toxic effects and no suggestion of the formation of harmful intermediary products. The acute effects of toxic doses of isopropyl alcohol were similar to those of ethyl alcohol.



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Tryptophane Synthesis

Increasing interest in the chemistry and production of amino acids has focused attention on two recent announcements concerning tryptophane, one of the essential amino acids important in both nutrition and therapeutics. The first of these developments is the statement by The Dow Chemical Company, Midland, Mich., that in devising new syntheses and production technics, it has become possible to produce this important amino acid in commercial quantities.

The second development of significance appears in the report of N. F. Albertson, S. Archer and C. M. Suter (*J. Am. Chem. Soc.* 67:37, 1945), all of the Winthrop Chemical Co., Rensselaer, N. Y.; describing an improvement in the synthesis of tryptophane from gramine. The report is based essentially on an improved procedure for preparing an intermediate employed in the synthesis of the amino acid. According to an announcement from the Winthrop Chemical Company, it is claimed that the new synthetic tryptophane can more than compete with tryptophane from natural sources.

New Process for Vitamin C Production

According to Science Supplement *for December 22, 1944, vitamin C can be obtained by a new process developed at the National Bureau of Standards by H. S. Isbell and H. L. Frush. They have found that an important source of the vitamin, galacturonic acid in the form of a salt, may be separated from solutions containing considerable impurities. In the process described, beet pulp was hydrolyzed by a commercial pectic enzyme, after which the resulting galacturonic acid was separated from the residue in the form of a salt. The double salt, sodium strontium galacturonate, which crystallizes from the beet pulp hydrolyzates, affords the highest yield, but two other salts are of value in separating galacturonic acid from the hydrolyzates of pectic substances. The commercial use of beet pulp for this purpose depends, however, upon a cheap source of pectic enzyme. Possible sources are the aqueous solutions remaining after the separation of penicillin, or the culture media of molds grown for food purposes.*

New British Sulfa Cream

According to a note in the Pharmaceutical Journal *(154:16, 1945) the (British) Ministry of Health has issued several amendments to the "National War Formulary." One of the most important additions to the N.W.F. is that of a sulfanilamide and sulfathiazole cream, which is prepared as follows:*

Sulfanilamide	**14½ grains**
Sulfathiazole	**14½ grains**
Glycerine	**38 minims**
Castor oil	**125 minims**
Lanette wax SX	**48 grains**
Water	**235 minims**

Heat the castor oil to 70°C., add first the Lanette wax SX and then the water (at 65°C.) with gentle stirrring. Heat the whole at 100°C. for at least 30 minutes and shake it as it cools. Mix the sterile sulfanilamide and sulfathiazole powders in a sterile mortar with the glycerine. Heat to 65°C. for two hours and mix slowly with the base. Store in a sterile jar.

Dental Patents

A new and improved cleanser for removable dentures forms the basis of U. S. Patent 2,362,487 granted to J. A. Hopkins. Claimed to be equally effective in both hard and soft water, without discoloring or other deleterious effects on the denture base and to provide a polishing effect on porcelain surfaces, a preferred formula is stated to consist of:

Calcium carbonate precipitate	**48.00 Gm.**
Tin oxide	**8.00 Gm.**
Tartaric acid	**3.00 Gm.**
Alkyl sulfoacetate (3% solution)	**0.54 Gm.**
Sodium bicarbonate	**24.00 Gm.**
Oil of wintergreen	**2.00 Gm.**

Another patent, U. S. 2,361,161, issued to D. C. Anderson, describes basic fillings for tooth cavities. Thus, a preliminary filling material in the form of a pliable paste may be obtained by mixing the following ingredients:

Zinc oxide	**4 drams**
Thymol iodide	**5 grains**
Creosote	**10 drops**
Oil of cloves	**12 drops**
Lanolin	**sufficient to make a solid paste**

Pretreatment Material for Hair Dyeing

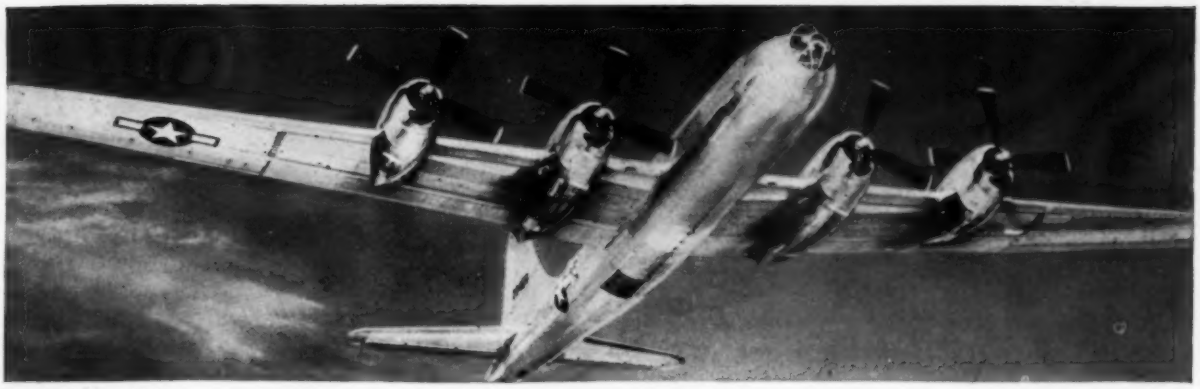
By applying new pretreatment materials to the hair, J. W. Orelup, in U. S. Patent 2,359,783, claims that it is possible to employ for hair dyeing a large class of non-toxic dyes hitherto unavailable for such application. These pretreatments or fixative compounds consist of salts of cation active materials which themselves possess a desired degree of cation activity, and are prepared by reacting higher fatty acids with the specified compounds.

An illustrative example from the patent specifications is as follows: A reaction vessel is charged with 210 pounds of coconut fatty acids and 109 pounds of 2-amino 2-methyl 1-propanol. The reaction mixture is kept at a temperature of 175°C. for about 6 hours. Glacial acetic acid is then added until a test shows clear solubility in water at a pH of 6.0 to 6.3. When used in the actual dyeing treatment, as, for example, for dyeing the hair black, a 2 per cent solution of this acetate product is shampooed through the hair at room temperature and allowed to remain for 15 minutes. The hair is then rinsed once and a 1 to 3 per cent solution of naphthol blue-black thickened with gum tragacanth is applied and allowed to remain for 20 minutes. The hair is then rinsed with water until no color is seen in the wash water, whereupon the process is complete.

It is claimed that practically any color may be applied to the hair by such methods and any non-toxic dye used.

Chigger Repellents

According to the findings of A. H. Madden, A. W. Lindquist and E. F. Knipling (J. Econ. Entomol. *37:283, through* Soap *21:111, Jan. 1945), dimethyl phthalate, applied directly to the clothing, proved generally most effective and lower in cost than a number of other materials used to control chiggers. Indalone (butyl mesityl oxide oxalate), and 2-ethyl hexane diol-1,3 (Rulgers 612) gave good protection for 30 days when applied in the same way. Treatmen' of clothing proved more effective than application to the skin; application in liquid form was more effective than application in powders and ointments.*



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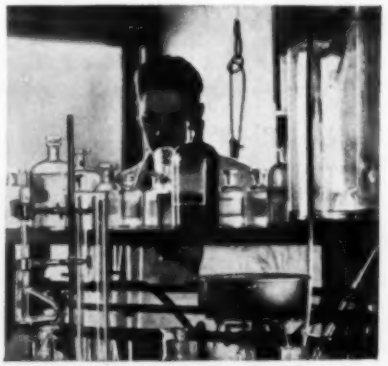

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Wheat Gluten Gel

A new gel-forming derivative of wheat gluten has been developed by workers at the Western Regional Reserve Laboratory. Reporting in *Industrial and Engineering Chemistry* (36:1149, 1944), H. C. Reitz, R. E. Ferrel and H. S. Olcott describe the properties and potentialities of sodium gluten sulfate obtained by the action of chlorosulfonic acid and pyridine or cold concentrated sulfuric acid on wheat gluten.

Sodium gluten sulfate prepared by either of the two methods is a cream colored solid which is not hygroscopic but, when brought in contact with cold water, absorbs immediately one hundred to three hundred times its weight of water to form an odorless, tasteless, and almost water-clear gel. Tests on experimental animals have failed to show toxic effects from oral administration or subcutaneous injection; nor was it possible to demonstrate antigenic properties. It has been used as an absorbing agent for body fluids in cystostomies and other cases involving postoperative drainage. The dressings required changing in these cases only about half as often as when no gluten sulfate was used. When used in surgery it has been combined with sulfa drugs, since no means of sterilization without destruction of gelling properties has yet been found.

Gluten sulfate is suggested as a vehicle and suspending agent in pharmaceutical preparations, and as a base for therapeutic jellies and ointments. It has been shown to be superior to tragacanth and karaya gums as an emulsifying agent for mineral oil, olive oil, and cottonseed oil. Gluten sulfate preparations made by the chlorosulfonic acid-pyridine process appeared to give smoother and more stable emulsions than did those by the sulfuric acid process. Since the gels are not affected by freezing, the use of gluten sulfate as an emulsifying or thickening agent in ice cream, as well as in other foods, seems possible.

Babassu Oil

In view of the current shortages of oils, formerly obtained chiefly from the Pacific islands and essential for the production of richly lathering soaps and other important products, more and more attention is being focused upon the babassu palm and more especially upon its oil-rich nuts. Concentrated in enormous numbers in the jungle areas of the Amazon region of Brazil, a comprehensive discussion of the babassu palm in the Chemurgic Digest *(2:301, 1944) terms it "the wonder tree" because every part of it has economic importance.*

With the expectation that babassu exports from Brazil should lead all other vegetable oils in post-war foreign trade, it has been said that the babassu palm could conceivably supply the world's entire needs for lauric acid-containing oils of the coconut and palm kernel types. At present, Brazil is rushing plans to make this oil available to world commerce. The physical properties of the oil, as presented by the Brazilian Ministry of Foreign affairs and in Jamieson's text on vegetable oils, are as follows:

	Ministry of Foreign Affairs	Jamieson
Specific gravity at 15 degrees centigrade	0.914	0.9240
Refraction index at 40 degrees	1.4608	1.4500
Saponification value	248-264	246.9-251
Iodine Number	12-17	14-16.3
Reichert-Meissl value	.....	5.8-6.2
Polenske number	.....	10.2-12.1
Acetyl value Andre-Cook)	.....	3.1
Melting point	22.2-26° C	22-26° C
Acidity index	12.8-4.3	.....
Unsaponifiable matter	.....	0.3-0.7%

The industrial applications for the oil are described as follows: In the manufacture of soaps, shaving creams, perfumes and vegetable butter. As light lubricant, superior to cottonseed oil and does not attack bronze. Almost as good as petroleum fuels in operation of Diesel engines. Adaptable for use in certain other internal combustion engines for operation of tractors and automobiles. Caproic, caprylic and capric acids of oil useful in manufacture of bulletproof glass.

Hair Preparations Patented in Canada

Hair products form the basis of two patents recently granted in Canada. The first of these, Canadian Patent 423,730, taken out by A. Larocque, describes a dandruff removing shampoo consisting of:

Olive oil soap	3.25 oz.
Eucalyptus oil	1.00 oz.
Water	35.75 oz.

The second, Canadian Patent 423,870, granted to E. Girty, specifies a pomade composition consisting of: 2.75 ounces of petroleum jelly; 0.25 ounce of sodium bicarbonate; and 5 drops of a solution consisting of mineral oil, glycerine and water.

Epidermic and Endodermic Ointments

It is the opinion of H. Goodman (*New York State Pharm* 19:26, Nov. 1944) that the two official ointment bases, the white and the yellow ointments of the U. S. P., are no longer worthy, except for their freedom from rancidity, of their place in modern therapy. Not only do their formulas disregard therapeutic nicities, but they also do not take into account the level of assumed activity of the prescribed ointment. In the compositions suggested by Goodman as substitutes for the official bases due consideration is given to the intended level of action, e.g. whether epidermic or endodermic. Thus an epidermic ointment, intended solely for the outermost layers of the epidermis is best provided by means of a vehicle containing mineral oils and hydrogenated fats and fat-like products. The suggested formula for such an epidermic ointment is as follows:

	Gm. or Cc.
Light liquid petrolatum	5
Wool fat	5
White petrolatum, to make	100

Where an endodermic ointment is needed for penetration into the skin, increased proportions of animal fats are required with reduction of the mineral grease and fat-like products. The suggested formula for a suitable endodermic ointment consists of:

	Gm. or Cc.
Light liquid petrolatum	5
Wool fat	30
White petrolatum, to make	100

The light liquid petrolatum is included to moisten powdered ingredients added to this base, as in the following suggested endodermic formula for treating hyperkeratotic lesions of ringworm of the toes and toe interspaces:

	Gm. or Cc.
Salicylic acid	6
Light liquid petrolatum	5
Wool fat	12
White petrolatum, to make	100

Water may be included in the endodermic base to dissolve water-soluble ingredients. Illustrative is the following endodermic ointment of boric acid:

	Gm. or Cc.
Boric acid, in fine powder	10
Water, to moisten	10
Wool fat	30
White petrolatum, to make	100

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PURCHASING DEPARTMENT

Essential Oils From Abroad Expected to Remain Tight; Increase in Domestic Production Would Be Welcome

Though still early, some ground work upon which to build a larger production of domestic oils in 1945 is being laid. One of the obstacles to production of some oils is the existing OPA ceilings. Essential oils made from cultivated crops have to compete for farm space with remunerative foodstuff crops. Then there is the manpower question and shortage of farm hands tends to make farmers utilize their limited labor resources in interest of food production. A larger production of wormwood, wormseed, tansy, pennyroyal, spearmint, dill, and even erigeron, would be welcome this year. Peppermint producers will do well to equal their 1944 production.

Progress in getting foreign products to this country is very slow. As an illustration of how this situation acts, one might cite the position of cloves. The market on spot is practically bare of supplies, both of the spice itself and of the essential oil as well. According to all information there must be plenty of spice in warehouses both in Zanzibar and in Madagascar; but there is no available shipping space, and no one can foretell when further supplies will come forward. This situation may be expected to repeat itself time after time in the future, not only on cloves, but on the whole gamut of essential oils that are either imported themselves, or for which the raw material comes from abroad.

There are no patchouly leaves in commercial quantities; the price for what driblets are available has hit the ceiling; and the future prospect for this material is much worse than that for cloves, since even if boats were available, no material could be shipped because of the Eastern War conditions.

So far as nutmegs are concerned, nothing can or will come out of Java, or Sumatra either, until the Japanese part of the war is over. However, limited quantities of the spice have been shipped here from the West Indies.

Vetivert, geranium, and ylang ylang trickle out in small quantities from time to time, and sandalwood is available in India if shipping is obtainable, but at prices that would make the American distillers' cost higher than the ceiling price.

Lemon oil will probably remain tight as long as the demand for lemons themselves continues high, and the government continues to buy up most of the available supplies of oil.

Orange oil, however, will probably be freely available because of its enormous production, since it is now made in California, Guinea, Florida and Brazil. Fresh lots of oils arriving from Brazil include 130 cases lemon, 199 cases orange, and 55 drums of sassafras.

FEBRUARY PRICE CHANGES

UP

Aconite root 25c
Anethol 25c
Arabic gum sorts ½c
Candelilla wax 8c
Citral 70c
Grapefruit oil 20c
Lemongrass oil 25c
Linalool 75c
Linalyl acetate 35c
Mercury bichloride 9c
Calomel 12c
Metal $10
Red Precip. 13c
White precip. 10c
Petit grain oil SA 25c
Ylang ylang oil Bourbon $3.50

DOWN

Cade oil 10c
Cardamom oil $1
Lycopodium 50c
Menthol Natural 50c
Vanilla Beans Mex. cuts 50c
Whole Mex. 50c

• Prices quoted in this section were current on the first of this month.

Geranium Scarce

While the spot supply of Bourbon geranium oil is about exhausted, a higher price is named for some new lots about to arrive.

Anise Scarce

With the exception of occasional small lots of Russian oil, the spot market is virtually bare of anise oil. Consumers are being forced to depend more on substitute items to fill requirements.

The Japanese have quite effectively stopped oils anise and cassia from moving out of China, but domestic manufacturers have found that anethol and cinnamic aldehyde, while not perfect substitutes for anise oil and oil cassia, have helped materially in the present situation.

Bergamot Scarce

The few pounds of Italian bergamot oil remaining unsold on spot are in strong hands and held free from any tendency toward acceptance of bids. It is believed that every effort will be made to get more oil but it was suggested that not much was left in Reggio after Britain and the United States had completed their buying.

Miscellaneous

Spot supply of lemongrass, bois de rose, petitgrain and linaloe is reported to be getting down to a very low level. The strong position in lemongrass is reflected in the ionones, while linalyl acetate is definitely stronger in keeping with the tighter supply of boise de rose and petitgrain. A further reduction is noted in cardamom to $18 a pound. This article appears in slightly better supply on spot. Quotations on cajeput are virtually nominal. Those with small stocks are inclined to reserve this oil for regular customers. Eucalyptus oil continues tight. There were no indications that additional supplies would be forthcoming in the near future. There was nothing new regarding a restoration of importations of lavender oil from France. Government investigators are still in France and the idea that actual engagements may be entered into gains prominence.

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BALSAM PERU
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BOLDO LEAVES
BORRAGE FLOWERS
BUCHU LEAVES
CARAWAY SEED
CELERY SEED
CHAMOMILE FLOWERS
CHAULMOOGRA OIL
CLOVES, Zanzibar
COCILLANA BARK
COLOCYNTH PULP
COLOMBO ROOT
CORIANDER OIL AND SEED
CUMIN SEED
DANDELION ROOT
DILL SEED, Indian
ERGOT OF RYE
FENNEL SEED, Indian
FOENUGREEK SEED
GENTIAN ROOT
GINGER, Jamaica, Calicut
GRAINS OF PARADISE
GUM ARABIC AMBER SORTS
GUM KARAYA
HELLEBORE ROOT WHITE
HERBA HERNIARIAE
HERBE MENTHE
HOREHOUND HERB
IRISH MOSS
JUNIPER BERRIES
KAMALA POWDER
LAUREL LEAVES
LAVENDER FLOWERS
LINDEN FLOWERS, with Leaves
MAHUANG, Chinese
MARJORAM LEAVES
NUX VOMICA
OAK MOSS
ORANGE OIL, Sweet
ORRIS ROOT
PEPPERMINT OIL
PIMENTO, Jamaica
POPPY SEED, Indian
PSYLLIUM SEED AND HUSKS
QUINCE SEED
RHUBARB ROOT
ROSEMARY LEAVES
ROSEMARY OIL
SAGE LEAVES
SARSAPARILLA ROOT
SAVORY
SENNA LEAVES AND PODS
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STRAMONIUM LEAVES
STROPHANTUS SEED
THYME LEAVES & OIL
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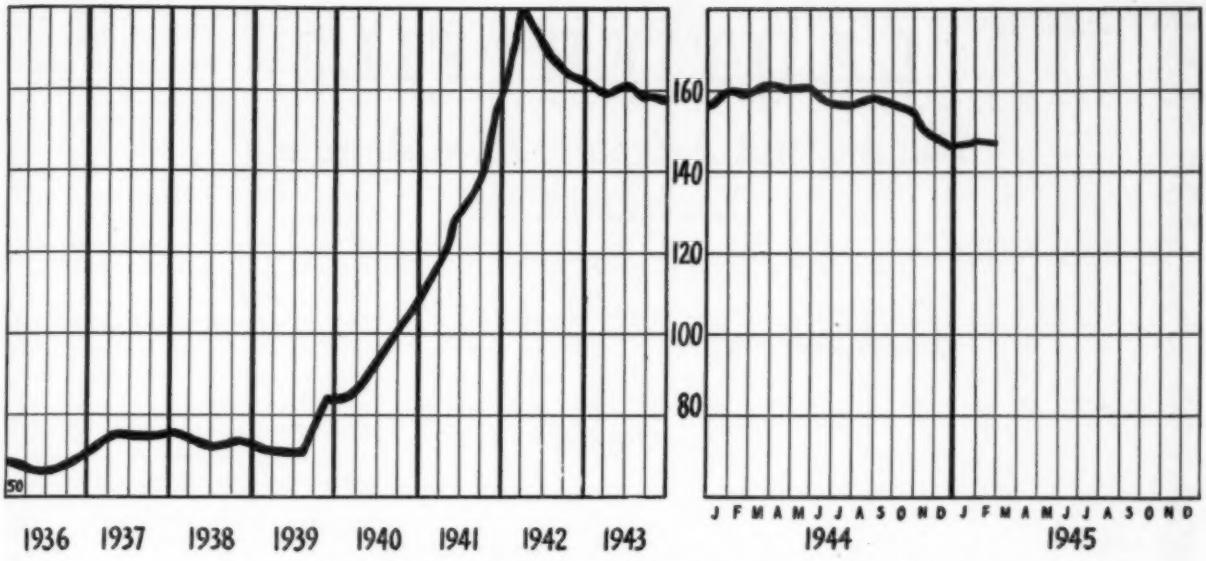
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for February declined from 146.1 to 145.8.

War Production Board Releases Penicillin; Mercurials Advance With Higher Raw Material Costs

Distribution of penicillin to civilians, hitherto rigidly controlled through the hospital depot plan, will be turned over to regular pharmaceutical and chemical distribution channels as of March 15th, it was learned.

The War Production Board decision to release civilian penicillin to normal channels reflects the swift rise in the production of the antibacterial drug. Supplies will be made available for civilian distribution after military demands have been met, and the actual amount that regular trade channels will be permitted to distribute to civilians will depend, of course, on the volume of production as well as the extent of military demand. However, since production has been rising steadily while the Army has been building up stocks of the drug, an increasing volume of penicillin should be made available to civilians.

Production of penicillin in January approximated 330 billion units, according to the WPB, of which 35 billion units were made available to civilians through the 2,700 hospitals embraced in the hospital depot plan administered by the Civilian Penicillin Distribution Unit of WPB. During February the depot hospitals were granted a 20 per cent increase. While the volume of penicillin manufacture is expected to rise steadily over the coming months, it is still quite likely that the supply for civilians will lag behind for some time.

Glycerin Ample

Although glycerin stocks declined by 1,297,000 pounds in December the quantity on hand December 31, 1944, amounted to 87,681,000 pounds or approximately 1,700,000 pounds more than earlier official estimates. The quantity on hand is equal to about a six months' supply and this should give consumers assurance that there will be ample quantities available to meet usual requirements in the months ahead.

Olive Oil Arrives

The reported arrival of 125,000 gallons of olive oil brought the total arrivals here to 275,000 gallons within the past two months. Prior to these receipts no imported olive oil was received in this country since early 1941.

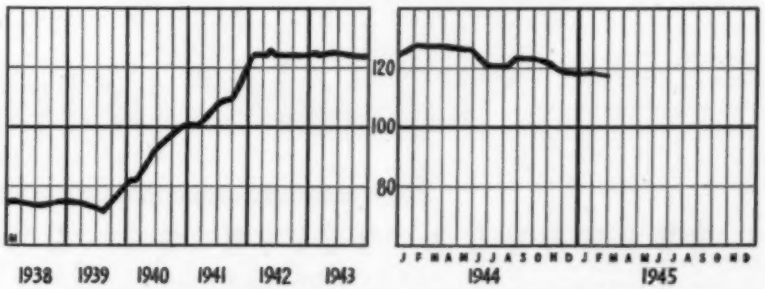
Mercurials Up

Although mercury is still $20 to $25 a flask below the ceiling price, nevertheless such a difference might be regarded as small as compared with the series of advances that have featured the market over the past several months. Starting from below $100 the market has been steadily advancing with the lastest upward movement establishing the market at $175 a flask.

This rising cost of mercury has carried the mercurials to new and higher levels. Calomel is now quoted at $2.56 per pound; corrosive sublimate $2.01; red precipitate $2.90; mercury oxide yellow $3.07; mercury oxide yellow technical $2.58; white precipitate $2.60.

Production of mercury rose 200 flasks to 2,500 flasks in December and consumption remained at the level of 3,900 flasks that has held since August, according to a report by the Bureau of Mines.

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



The medicinal chemicals index declined fractionally from 123.5 to 123.1. Menthol was lower at $12.75; mercury rose to $175.

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Figures that may be published indicate that stocks should have dropped further in December following the pattern of several earlier months. Unpublished factors of imports and of withdrawals from Government stockpile to fill war orders, account for the stock gain in December to 10,400 flasks from 7,800 flasks in consumers and dealers hands, while stocks in producers hands rose from 2,094 flasks in November to 8,714 flasks in December. An increase in consumption of mercury which has been noted in the form of mercury red oxide is attributed to use of the oxide in a new type of battery for the armed forces.

Mercurio Europeo which markets the mercury production of the Almaden mines in Spain will again offer supplies to the United States, as soon as shipping space can be made available. Sales will be handled through Metal Traders, Inc., New York.

The Almaden mines at one time produced half of the world's metal. The mercury producing countries of the past in the order of their importance were Spain, United States, Austria, Peru, Italy, China and Mexico. The Almaden mine is the largest and the oldest in Europe.

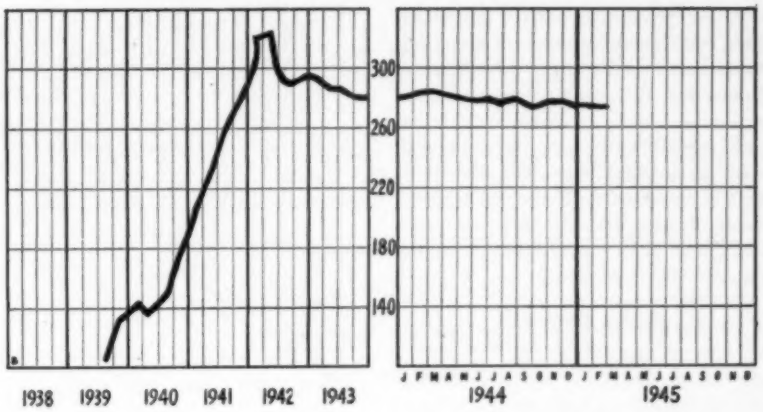
Due to the scarcity of shipping space between Spanish and United States ports it is not known yet when the first arrival can be expected. It is hoped the supply of Spanish mercury will relieve the market from its present tight position.

Camphor Tight

Manufacturers and distributors of camphor have been curtailing their civilian customers since last March, and the WPB statement that approximately 50 per cent of civilian requests will be met after military needs have been taken care of, may not prove to be the case with all consumers. Production of synthetic camphor in the form of U.S.P. tablets for the pharmaceutical trade, for example, has been cut to about one-third of normal, while the output of the powder for some civilian uses has been slashed to approximately three eighths, both reductions being made necessary for larger percentage production of technical and military grades.

There is a possibility that the contemplated 50 per cent camphor basis for civilians will be applied to the technical rather than to the pharmaceutical grades. Part of the latter is in the form of ½ ounce and 1 ounce tablets, part in the form of powder.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index remained without change at 275.3.

Lanolin Firm

Lanolin allocations for cosmetic use appear destined to hold at the closing levels of last year, which, roughly, estimated, amounted to 40 per cent of that which could be used had there been no restrictions. A total of 675,000 pounds was allocated in 1944.

Caffeine Regulations

Caffeine and theobromine were placed under the general chemical allocations order M-300 but no changes were effected in their regulations. Caffeine remains in adequate supply for the pharmaceutical trades, but the beverage drink manufacturers still have their supplies granted only in part, from domestic and imported caffeine. It was reported recently that Brazil had approved an order under which only duly purified caffeine and theobromine can be exported. Inquiries also would be instituted in foreign markets for the purpose of regulating export prices for the Brazilian product in face of competition and consumption requirements. Caffeine is obtained through extraction from coffee, tea, guarana, kola nuts, and paraguay tea.

Menthol Mixed

The menthol market continues to display a mixed tone. There has been a slight tightening in the spot position, but there is a general tendency on the part of both buyers and sellers to mark time for the moment believing that a decidedly clearer picture of the situation in Brazil may be forthcoming shortly.

Reports from Brazil indicate that no shipments of new crop menthol may arrive in the United States before next July and that prices will be high. The report further states that because of the unusual drought prevailing throughout the Southern Hemisphere all crops have suffered great damage. This is particularly true of Brazil, where all crops are late and only a fraction of expectations.

Spot factors, however, with regard to reports from Brazil, point out that the dry weather prevailed about two months ago and that the mint crop is reported in good condition as the result of the good weather that prevailed during the latter part of the growing season.

In the meantime, additional small lot spot sales were made at $12.75, with a range up to $14 a pound.

Miscellaneous

Swift moving events in Manila are undoubtedly hastening the time when coconut oil and other soap making materials will again be available. Sulfa drugs are reported to be working into a decidedly firmer position. Rochelle salt and tartar emetic are scarce. Prices on tartaric acid are firm because of limited offerings. Prices on crude iodine remain unchanged but the demand is considerably below what it was about a year ago and present spot supplies are reported more than ample to meet the demand. A continued good inquiry is reported for such items as hydrogen peroxide, acetone, salicylates and saccharine. Spot supply of methyl salicylate appears sufficient to take care of current requirements, but acetylsalicylic acid and sodium salicylate are reported working into a firmer position.

CRUDE DRUGS

Recent press reports have suggested some curtailment in shipyard activities on the north Pacific coast. If a fact and if extended, this could mean some gain in the labor to be available for cascara bark peeling this year. A good peel would be welcome, especially since that in 1944 was insufficient to meet requirements of those who age their bark and hence store it two or three years before using.

The tree, cascara sagrada, is a native of the Pacific Coast. It is produced in no other place in the world. The territory along the Pacific Coast including British Columbia, Washington, Oregon and California is its habitat, and bark peelers in this territory produce about 6,000,000 pounds of dry bark annually, the bulk of which comes from Oregon and Washington.

The great demand for the bark of the cascara has stimulated the price in recent years, and peelers are therefore making greater inroads on the available and more easily accessible locations where the trees grow. Since careless peeling generally results in destruction of the trees, the available supplies are becoming farther and farther away each year, necessitating the packing out of much of the supplies by horses or mules from remote places in the mountainous sections.

Spice Industry

California's $1,000,000 war-nurtured spice and drug industry might spiral into a $32,000,000 annual business, Monroe C. Kidder, director of the division of drug and oil plants of the State Department of Education, told the opening session of a two-day conference recently.

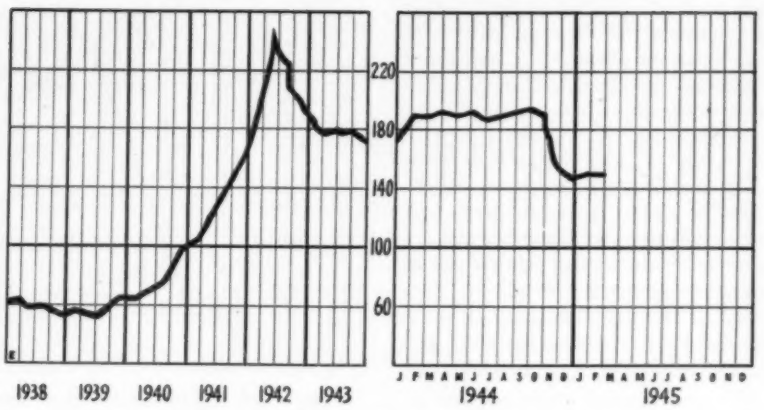
Mr. Kidder said that last year 1,300 acres of Japanese mint, worth several hundred thousand dollars, were grown in three counties. Cultivation of the cascara sagrada tree, from the bark of which is brewed a laxative, netted $400,000 to California last year.

Mr. Kidder warned, however, that reopening of normal trade channels after the war would bring sharp competition with a drop in prices and urged greater subsidies. To date the state has appropriated $40,000 to the industry.

Nicaraguan Exports

Nicaraguan exports of ipecac root during September 1944 amounted to 3,981 kilograms, valued at $22,868. Exports of balsam of Peru in the same month totaled 3,833, kilograms valued at $13,355.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index remained without change at 149.2.

Peru Beeswax

Production of beeswax in the Lambayesque region of Peru in 1943 amounted to 7,510 pounds. Prior to 1935 a considerable quantity of beeswax was exported to Great Britain and Germany, but since 1938 the United States has been the chief customer. In 1943, 5,118 kilograms were exported, a sharp decline from the 15,177 kilograms exported in 1942. However, during the first 9 months of 1944, 5,171 kilograms were shipped abroad.

Vanilla Frozen

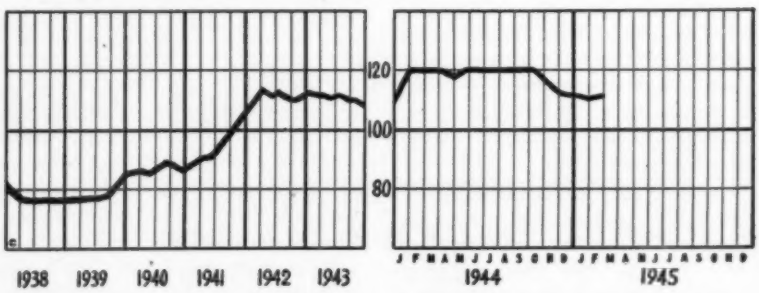
All exports of Bourbon vanilla beans from Madagascar have been frozen. In the future all shipments will be subject to export licenses and all licenses will be subject to the approval of the Colonial Ministry of the Republic of France in Paris, it is learned. Government officials of Madagascar are at present reported negotiating with the Colonial Ministry in Paris for shipments of vanilla out of Madagascar but until such time as the Ministry arrives at a definite ruling, no shipments will be permitted to leave Madagascar. Under the circumstances it is generally believed all future purchases of vanilla will probably have to be made in France.

Earlier in the period under review the arrival of a cargo of Bourbon vanilla valued at approximately $2,000,000 caused some excitement in the trade. The arrival of this lot was the first this year. While it is the second cargo to reach this market in the past three months, a good portion of the shipment has already been sold and will move directly into consuming channels. It is understood that a third lot is afloat but it will be considerably smaller than the last two arrivals.

Miscellaneous

Last sales of gum arabic have been made at 12½c a pound and local houses are now asking 12¾c to 13c a pound for additional spot lots. Because of renewed buying interest it is generally believed that the upward trend will be extended.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index advanced fractionally from 115.0 to 115.8. Candelilla wax was higher at 44 cents; menthol was lower at $12.75.

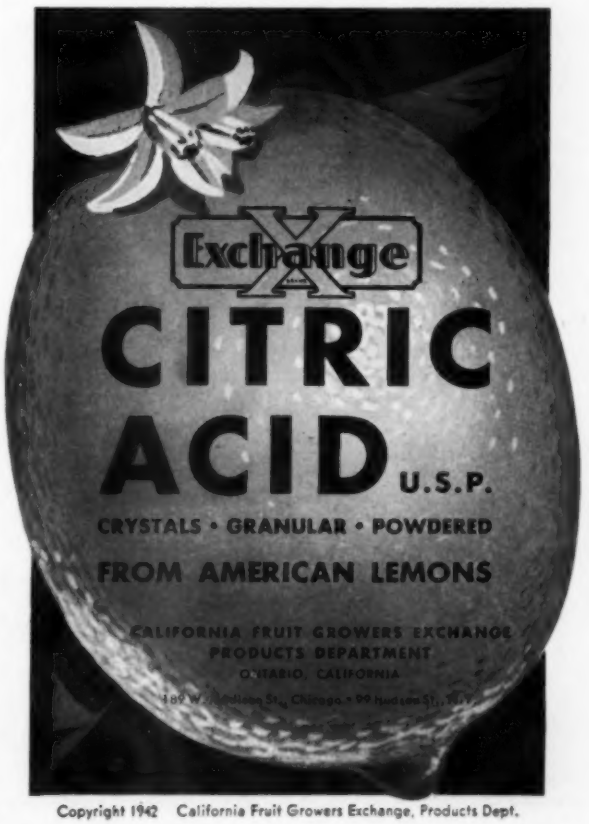
Borderline Toiletries

(*Continued from page 311*)

new. The first germicides made from this type of germicidal agent appeared in this country about five years ago. These compounds consist of ammonium compounds of high molecular weight like alkyl-dimethylbenzyl ammonium chloride or di-isobutyl cresoxy ethoxy ethyl dimethylhenzyl ammonium chloride. Numerous compounds of this type are possible. In general they may be described as non-corrosive, non-staining, odorless, colorless bodies possessing a bitter taste. They are unaffected by salts, acids and alkalies and are soluble in water as well as a large number of organic solvents. They possess high killing power against bacteria and in the dilutions used for this purpose are both non-irritating and non-toxic. Because their anti-bactericidal properties are reversed by anion active agents, particularly soap, they are referred to as cationic, germicidal agents. They are chemically stable, effective in the presence of organic matter and non-selective. They also possess some fungicidal properties. A large amount of scientific investigation was carried out before certain of these quaternary ammonium compounds were accepted by the Council on Pharmacy and Chemistry of the American Medical association for surgical applications.

Cationic germicidal agents today find application not only in the medicinal field, but are employed for general disinfection, for cleansing in dairies and for dairy implements, as a germicidal solution for cleansing public eating and drinking utensils, and in fisheries and on fishing vessels where putrefaction is apt to occur. There are undoubtedly other undeveloped applications, as in the field of certain cosmetics. These compounds will probably find their way into after-shave lotions, hand and skin lotions, hair tonics, deodorants and other toilet powders when proper investigations have been completed. They possess the property of adhering effectively to vegetable and animal matter. It may be pointed out that when the hands have been washed with these compounds it is difficult to rinse off the film. As a result the hands are bacteriostatic for an appreciable length of time. The quaternary ammonium compounds are furthermore wetting agents which have the ability to lower surface tension and interfacial tension. This imparts to them the desirable property of more readily removing oily and greasy secretions on the skin when occasion arises.

The substituted phenols have increased in use in the germicidal field in the past years. These are an improvement upon phenol and cresol in some respects. They have greater killing power and may be used in lesser concentration, are less irritating to the skin, though in many cases too irritating for general use, and in most cases are pleasanter in odor, though still quite strong. These products are sold under the names of Dowicides and Santophens. Some of them have good fungicidal properties. It is customary to make finished germicides from these by the usual manner of



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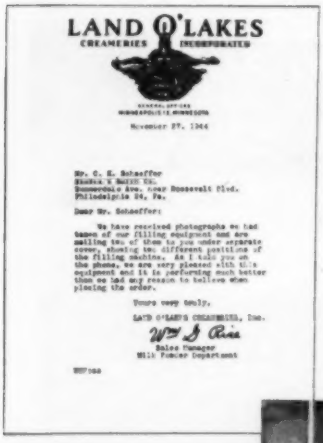

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solulizing them with soaps or wetting agents in rather strongly alkaline solutions. These germicides are finding increasing uses in hospitals for preoperative preparation and cold sterilization of surgical instruments and sick room appliances because of their non-corrosive and less irritating properties. It would require considerable experimentation to incorporate them into toilet preparations, but they may find some use in certain of these products.

There have also been marketed and listed in the literature certain substituted methanes which are designated as a "G" Series of germicides. The product known as G-4 is 2,2′ dihydroxy 5,5′ dichloro diphenyl methane. Others in this series known as G-11 consist of 2,2′ dihydroxy 3,5,3′,5′ tetrichlorodiphenyl and 2,2′, dihydroxy 3,5,6,3′,5′,6′, hexachlorodiphenyl methane. Besides possessing high phenol coefficients these substituted methanes have excellent fungal properties, especially the G-4.

G-4 is a light colored powder, has a slight phenolic odor and does not irritate the skin in the quantity required for use. It is soluble in most organic solvents and may be made water soluble by the addition of soaps and wetting agents, plus a slight amount of alkali. It is stable, and does not readily discolor. The use of the latter two bodies, G-11 has recently been patented for the production of germicidal soaps in the proportion of from two to three percent in soap base. When incorporated in a milled soap, it imparts germicidal properties that remain effective under conditions of use, cleanses skin with fewer germs after two minutes instead of twenty minutes of ordinary washing, consequently less chance of infection in cuts, burns, scratches or blisters are assured. In this regard G-11 is extremely valuable in that there are practically no substances known which will maintain their germicidal properties effectively in soap under these conditions. The use of this germicide in toilet articles containing soap, like shampoo, shaving cream, will undoubtedly be found feasible in that they possess probably the most desirable of all the medicinal properties for such use.

In concluding this article it is again to be emphasized that the moment that toilet articles claim any germicidal properties, they come under Federal regulatory acts, depending upon the germicidal or therapeutic claims that are made.

The incorporation of germicides or antiseptics into all types of cosmetics is not easy. Many factors will influence their efficacy. As has already been indicated the pH is of much importance. Unless this can be properly fixed the germicide will not be effective. Then it must be remembered water is necessary to make them germicidal or bacteriostatic. For this reason claims for antisepsis should be made usually when there is moisture present, unless exhaustive tests are made in other vehicles. As many parts of the skin are predominantly oily this condition must be considered. All in all it is safer to claim germicidal properties only at the time the preparation is applied.

It is not our purpose as we have said, to encourage

the encroachment of cosmetics into the germicidal or medicinal field, but there is no questioning the fact that the use of germicides for this purpose has ample justification, more so than the use of medicinal ingredients.

Foundations for Make-up

(*Continued from page 309*)

discussed are primarily foundations rather than make-up bases where powder is a necessary adjunct. Comparisons for utility are therefore unfair unless this is borne in mind.

We now come to a subject which has many pros and cons regarding the use of make-ups in general, which is its effect on the skin. There have recently appeared a series of advertisements by a well-known manufacturer in which the use of cake make-up specifically was condemned. In addition there have been reports that it "dries" the skin. The writer can produce arguments which could further prove these statements but which, if elaborated upon further, could be applied to almost every cosmetic on the market. If it is true that the presence of soaps will cause dryness of the skin, so would face powders because these also have an alkaline reaction. Within my own experience (which cannot be taken as being authoritative) I have seen women suffer irritations from all of the products discussed above but I cannot point to any which causes a greater amount than another. We may always count on a certain percentage of consumers reacting unfavorably to any product, and if proper care is taken in formulation to avoid the introduction of known sensitizers and known harm producers we may regard them as safe. If it is contemplated that a new substance be used, it would become important to subject the product to a more rigorous examination in conjunction with a reputable dermatologist. At the same time we should bear in mind a few facts which are more or less axiomatic. Large percentages of soap in long contact with the skin will cause irritations. Undue alkalinity will do the same. Arguments have been advanced that mineral oils if used constantly in cosmetic preparations will degrease the skin. I am not prepared to affirm or deny this latter statement except to say that most women have been using cold creams containing large percentages of mineral oils for many years without any apparent ill effects. In other words, if the materials we handle and use are used for the purpose for which they are intended and in judicious proportions we may expect a minimum of trouble due to their use.

Carbonated Beverages

(*Continued from page 313*)

Included in the "K", "C", Jungle or Emergency Ration packages, soft drinks can be carried as a pill or tablet in a cellophane wrapper and served in "fox holes" in the most remote corners of the globe.

Field research is suggested in order to develop a tablet with an appropriate binder or a pill with a sugar

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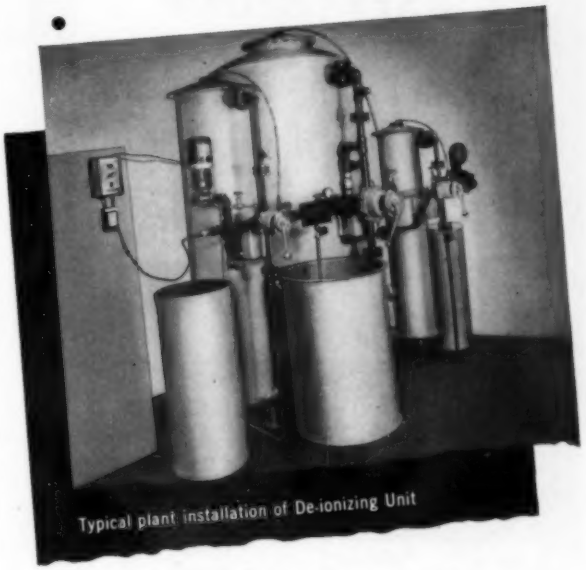

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Cooling carbonated beverages or drinking water in the tropics: Even the most pleasing and refreshing of the many soft drinks on the American market have a flat non-invigorating taste when served warm. In outlying posts and battle areas refrigeration is usually out of the question. However, using the principles of evaporation as a cooling process it is possible for troops individually to cool off their drinking water and beverages to a limited extent. Soldiers can fit their canteens in an old woolen sock, preferably, immerse the sock and canteen in water. Then as they march or go into combat the water in the sock is evaporated, cooling somewhat the inside contents of the canteen. The Lyster bag can be treated in the same way. Water sprayed on the outside of unpainted canvas Lyster bags at frequent intervals will cool the inner contents appreciably in the course of time. It may be possible for troops to surround the painted Lyster bag with old bath towels, G.I. blankets or soft cloths, which with frequent soaking may result in some cooling of the inner content.

The laws of capillarity may be used where a Lyster bag can be set up over any water, whether stagnant or otherwise. Threads of toweling, soft string, lamp wick, or any permeable cloth may be hung down from the material surrounding the Lyster bag or directly from unpainted canvas bags into the water below. The water will travel up by capillary action and keep the material around the bag moist, so that evaporation will take place continually, thus exerting a continual cooling effect.

This cooling effect is only useful during the dry season. When the relative humidity is high, little or no evaporation will take place and hence there will be little cooling effect.

To secure maximum carbonation over a long period, the finely comminuted sodium bicarbonate reacts too rapidly with the acid. In order to get a slow, ebolution of CO_2, the sodium bicarbonate may be mixed with a neutral substance such as milk sugar or corn starch, etc., or sodium bicarbonate tablets which may be fragmented instead of finely comminuted, thus delaying the reactions and securing a prolonged but slower gas formation, simulating that present in regular carbonated beverages.

Some cola drinks with high sugar content tend to require too large a pill in bulk form for shipment. It is recommended that where such bulk is too great, the crystalline or coarse powdered form be used, when a heaping teaspoonful of either will make a six ounce glass beverage.

Should the end product have a flat taste, from excess sodium bicarbonate, citric or phosphoric acid can be added Q.S. to counteract it.

Some additional research may be necessary on each soft drink to be dehydrated, concentrated and carbonated, but such work will prove worthwhile if men overseas can benefit.

Nasal Preparations

(*Continued from page 317*)

If a 1 per cent solution of ephedrine sulfate is desired, the amount of dextrose in the above formula is reduced to 0.7867 Gm., and for a 2 per cent solution the dextrose is further reduced to 0.3663 Gm. The preservative used in making the "preserved water" is 0.04 per cent of a combination of 65 parts of methyl parahydroxybenzoate and 35 parts of propyl parahydroxybenzoate. This combination produces no irritation and has proved to be effective in preventing the growth of microorganisms upon exposure to infection.

Sometimes substances like menthol are added to aqueous ephedrine preparations to impart additional soothing qualities. Since such materials are not miscible with the vehicle, a small proportion of alcohol or glycerine may be required to assure solution. The following solution, which was developed by Hope[15] of the U. S. Marine Hospital at Seattle, Washington, is illustrative of a product of this type:

Ephedrine sulfate	**2.0 Gm.**
Chlorobutanol	**0.5 Gm.**
Menthol	**0.1 Gm.**
Alcohol	**2.0 cc.**
Dextrose	**8.0 Gm.**
Glycerine	**3.0 cc.**
Distilled water, to make	**100.0 cc.**

Quite a few nasal preparations based on the decongestant action of ephedrine have appeared in the patent literature.[16, 17] One of these is rather interesting in that the patent[18] describes a concentrated nasal douche to be diluted with four times its quantity of water before use. The concentrated product consists of:

Ephedrine hydrochloride	**7.00 Gm.**
Sodium chloride	**22.00 Gm.**
Methyl parahydroxybenzoate	**0.52 Gm.**
Sodium bicarbonate	**17.00 Gm.**
Glycerine	**22.00 cc.**
Water	**1000.00 cc.**

Although the trend in nasal preparations appears to be in the direction of properly balanced aqueous solutions, ephedrine jellies continue to command a certain definite demand. Such products, generally dispensed in collapsible tubes with a special nasal top to facilitate application, provide a longer and more sustained action. Indicative of such nasal jellies is the following, rather simple composition:[19]

Ephedrine sulfate	**0.3 Gm.**
Tragacanth mucilage (3%)	**20.0 Gm.**
Rose water	**10.0 cc.**

Ephedrine solutions are quite extensively employed in the treatment of asthma, but often the more powerful action of epinephrine (adrenaline) is required to relieve more severe attacks. To obtain the prompt and stronger action of epinephrine with the more persistent effects of ephedrine, Wilcox[20] combined the two drugs in a single preparation. Taking many factors into consideration, he developed the following well-rounded solution

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to provide a product which is effective in the treatment of asthma by the spray method. The solution is physiologically stable, is acid in reaction, and does not deteriorate on storage:

Atropine sulfate	0.10	Gm.
Sol. adrenaline hydrochloride (1 in 100)	12.50	cc.
Ephedrine hydrochloride	0.50	Gm.
Hyoscine hydrobromide	0.025	Gm.
Chlorbutol	0.25	Gm.
Glycerine	12.50	cc.
Distilled water, to make	100.00	cc.

During the last decade or so, a fairly large number of homologues of ephedrine have been developed.[10, 21] Extensively described in the research and medical literature, many of these products are claimed to have superiorities over ephedrine, which is used as a basis of comparative action. Some of these products have obtained rather wide acceptance by the medical profession, but the better known items are patented or otherwise controlled. Among those which have been accepted and listed in the "New and Nonofficial Remedies" of the A.M.A. are the following: amphetamine, kephrine, neo-synephrine, propadrine, and racephedrine.

Of course, the sulfonamides have taken their place among drugs valuable for the treatment of upper respiratory tract infections. It was early discovered that ordinary powdered sulfonamides were not suitable for nasal application. Lack of solubility in water was also a disadvantage. However, these barriers have been overcome by various means and now the sulfas, generally in combination with a vasoconstrictor, are widely used in nasal conditions, especially infections.

The use of more soluble forms of sulfa drugs offered one possible solution. In 1941, Turnbull[22] reported that a 5 percent solution of the sodium salt of sulfathiazole brought greater relief from the symptoms of chronic sinusitis when used as a nasal spray than any other preparation he had previously tried. Following this lead, other physicians began to prescribe such sodium sulfathiazole solutions as nasal sprays, as nose drops, and for use on tampons.

Since the sodium salts of the sulfa drugs are extremely alkaline, with a pH range between 10 and 11, it was not long before warnings of the dangers of such solutions began to appear.[6] The first hint of danger appeared in Fletcher's[23] report. He had observed necrosis of the lining of the maxillary sinus following irrigations with solutions of sodium sulfathiazole over a three-week period. Laboratory studies on animals performed by Fitch and his associates[24] and by Gundrum[25] confirmed that sodium salts of sufonamides exerted caustic, irritating effects on the nasal mucosa. Aside from this major disadvantage, another difficulty encountered was the instability of the solutions. If exposed to the light, the solution turned brown within forty-eight hours, lost its therapeutic efficacy and became definitely irritating.[26]

Nonetheless, Turnbull and his coworkers[27] persisted in their efforts to overcome the disadvantages of

the original solutions. After considerable chemical and clinical research a product was evolved which has found considerable acceptance and which promises to be of considerable value in the treatment of acute and chronic sinus infections and other nasopharangeal infections. For example, it was found that the addition of a vasoconstricting drug to aid in shrinking the nasal mucous membranes would enhance the value of the preparation. Ephedrine proved incompatible, but dl-desoxyephedrine hydrochloride, a vasoconstrictor discovered in 1919, proved suitable and efficient. The solution containing the resulting "vasosulfa" compound was stabilized by the use of sodium sulfite and glycerine. As described in a recent publication,[28] the new and improved nasal preparation is made as follows:

Sodium sulfathiazole sesquihydrate	2.5 per cent
Sodium sulfite, anhydrous, C.P.	2.0 " "
Glycerine	1.0 " "
dl-desoxyephedrine hydrochloride	0.125 " "

These ingredients are heated with sufficient water to cause solution and then there is added 0.8 per cent 0.6 N hydrochloric acid by volume or sufficient acid to bring the pH of the solution to approximately 8.7. It is then sterilized by boiling and suitable flavoring and coloring added.

It should be noted, however, that the above product is covered by a pending patent. At least four of the larger pharmaceutical companies, licensees under this pending patent, have marketed this nasal preparation under individual proprietary names.

A somewhat similar approach to the problem has been reported by another group of workers. With sulfathiazole acting as a base and neo-synephrine hydrochloride acting as an acid, Geiter and his associates[29] found that under suitable conditions, these two substances unite to form an addition salt, neo-synephrine sulfathiazole, which separates from its solution in crystalline form. Retaining the vasoconstrictor properties and the bacteriostatic qualities of its components, it has been found that 0.6 per cent of the salt with 0.7 per cent sodium chloride does not effect ciliary activity. Limited clinical studies indicate neither sensitivity nor irritation results from the repeated application of this solution to the membranes of the nose and throat.

Others have tackled the sulfa problem from different angles. In one instance, sulfathiazole has been reduced to microcrystalline size. This permits better suspension in aqueous vehicles and is said to provide enhanced therapeutic effect, uniform coating over infected areas, prolonged bacteriostatic action and easy passage into the nasal sinuses.[30, 31] Combined with a vasoconstrictor (paredrine hydrobromide) the preparation provides both an antibacterial effect and a decongestant action. However, cases of toxic reactions to such paredrine-sulfathiazole suspension have appeared in the literature.[32]

The employment of vehicles other than aqueous solutions has occurred to other workers as a means of securing the benefits of sulfonamides for intranasal

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therapy. Yorkman and his associates,[33] for example, have dissolved various sulfonamides in propylene glycol; the most useful of these being a 3 per cent solution of sulfathiazole, a 3 per cent solution of sulfapyridine and a 10 per cent solution of sulfanilamide. The pH of these solutions is slightly acid in reaction. If desired the 3 per cent solution of sulfathiazole can be diluted with normal saline or water prior to use but the undiluted solution is said to atomize very well at 22° C. or more. It is suggested that equal volumes of the three propylene-glycol-sulfa solutions may be mixed to provide a greater probability of efficiency in the presence of mixed infections.

Despite the fact that generations of physicians have prescribed nasal preparations with oily bases, there is growing opposition to such nose drops, particularly those containing mineral oil. The chief objection to such products appears to rest on the possibility that such solutions may go directly from the nose to the lungs and cause lipid pneumonia.[3] There is experimental and clinical evidence to bear out this view. The work of Walsh and Cannon,[34] in studies on rabbits, led them to conclude that oily solutions, when instilled intranasally in small amounts, went quickly to the lungs and caused edema, desquamative alveolitis and focal lipid pneumonia. Further evidence along these lines appears in the reports of Cannon[35] and others.[6] It was on the basis of this and other evidence that the Council on Pharmacy and Chemistry[36] decided, in 1942, to omit oily nasal inhalant preparations from their publication, "New and Nonofficial Remedies." Opinions with regard to the dangers of lipid pneumonia from the use of inhalants containing oils other than liquid petrolatum are not quite so conclusive.[6]

Wishart[37] has pointed out that only 106 cases of oil aspiration pneumonia have been reported during the years from 1925 to 1936; this despite the large consumption of oily preparations by an enormous number of people. Nonetheless, Fabricant[6] feels that: "The fact that 20 per cent of all cases of lipid pneumonia thus far reported in the literature is due to aspiration of oily nose drops places the responsibility on manufacturers who blind themselves to the handwriting on the wall."

Despite the recognized soothing qualities of the commonly used nasal oils, it has been found from various studies[38, 39] that certain types of oily solutions adversely affect the mucous membrane and cause slowing of ciliary activity.[2, 3]

Nonetheless, oily nasal preparations still find a quite substantial demand, even though their possible dangers are slowly filtering down to the general public. Of course, many formulas for such products have been developed over the years. The following preparation, an emulsion type of nose drop, is indicative of the "newer" kind of products:[40]

Ephedrine sulfate	**1.00 Gm.**
Menthol	**0.10 Gm.**
Camphor	**0.10 Gm.**

Chlorobutanol	**0.50 Gm.**
Sodium benzoate	**0.50 Gm.**
Eucalyptol	**0.25 cc.**
Acacia, powdered	**12.50 Gm.**
Liquid petrolatum, heavy	**50.00 cc.**
Distilled water, to make	**100.00 cc.**

One type of nasal inhalant which has stood up under the test of time is the modern form of the old-fashioned "croup kettle." Nowadays, medicated steam, provided by means of electric or other types of heaters, is still widely recommended for upper respiratory infections, especially in children.[41] Compound tincture of benzoin, as such, or in combination with other soothing ingredients, is still highly popular.

A possible return to the now almost discarded use of medicated "snuffs" is apparent in the work of Delafield and his associates.[42] Preliminary studies, with antiseptic snuffs based on sulfathiazole or penicillin, indicate that while such products will not prevent or cure the common cold, they may favorably affect the course of the infection by preventing secondary bacterial infection. Wagers[43] has employed estrogenic substance in the treatment of a small series of cases. Applied to the nasal mucous membrane, improvement was obtained in 18 of 26 cases. The use of vaccines by intranasal spray has proved effective as a prophylactic measure in 74 per cent of the cases treated by Walsh.[44] However, these newer developments await further trial before they can be more fully evaluated.

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Patent Review

By I. J. FELLNER, Ph. D.

U.S. 2,364,563
Keratitic medicament.—John B. Stribling, Rotan, Texas. —Dec. 5, 1944.

A composition comprising a water soluble sodium sulfathiazole, a water soluble azosulfamide indicator, and a powdered charcoal diluent.

U.S. 2,364,579
Hog cholera vaccine.—to Lederle Labs., Inc., New York.—Dec. 5, 1945.

The vaccine comprises hog cholera virus associated with hydrous aluminum oxide and an aqueous fluid in such an amount that part of the virus is adsorbed onto the aluminumhydroxide, the rest being free in the liquid.

U.S. 2,364,760
Therapeutic preparation against ulcers. –to Parke, Davis & Co., Detroit, Mich. Dec. 12, 1944.

The product is derived from the urine of mammals not suffering from ulcers and is characterized by the following properties: It is not toxic to humans, shows no gonadotropic activity on immature female mice, reduces gastric secretion and acidity, has no estrogenic activity, inhibits and heals gastroenteric ulcers. It is an amorphous powder soluble in water, its aqueous solution does not reduce Fehling, it is insoluble in undiluted neutral organic solvents, and its aqueous solutions are not inactivated by moderate heating.

U.S. 2,365,694
Iodine medicament for local application.—Robert Bruce Goodrich, Waterford, Conn., one-half to Roy F. Steward, Meriden, Conn.—Dec. 26, 1944.

A substantially dehydrated water soluble inorganic salt which undergoes setting in passing to a higher state of hydration and is chemically inert to iodine, is subjected to the hydrating action of an aqueous dispersion of iodine and a binder, to form a shaped body before the setting action is complete.

U.S. 2,366,189
New sulfathiazoles.—to Winthrop Chemical Co., Inc., New York. Jan. 2, 1945.

A new sulfathiazole derivative in which a phenyl radical is introduced into the thiazol ring and a lower acyl group substitutes one hydrogen in the amino group of the sulfanilyl radical.

U.S. 2,366,742
Sulfa detoxicants.—to William R. Warner & Co., New York.—Jan. 9, 1945.

The toxicity of sulfa drugs is reduced by adding hexuronic acids and their salts.

U.S. 2,367,037
Sulfonamide derivatives.—to American Cyanamid Co., New York.– Jan. 9, 1945.

A new therapeutic agent representing 4-amino-1, 2,4-triazole in which the sulfonamide group carries in

its 4 position any radical that can be hydrolyzed or reduced to NH_2.

U.S. 2,367,166
Lacteal laxative product.—Clyde C. Balston, Interlachen, Fla.—Jan. 9, 1945.

A laxative product comprising laxative oil and lacteal material intimately blended and frozen together.

U.S. 2,367,702
New therapeutic agent.—to The Wm. S. Merrell Co., Cincinnati, Ohio.— Jan. 23, 1945.

Thienyl-amines of the formula Th-CRR-CRH-NR_2R_2, where Th represents a thienyl radical in 2 position, CR-CR is a substituted alkane of more than 2 carbons and one of the R's is hydrogen, and wherein R_1 is hydrygen, hydroxyl or alkyl, and R_2 is hydrogen or an alkyl group.

U.S. 2,367,878
Antiseptic preparation.—to Hoffmann-La Roche, Inc., Nutley, N.J.—Jan. 23, 1945.

An active germicidal ingredient is formed of a compound representing a quarternary ammonium derivative of aminoacetic ester wherein the ester group is a cyclic radical, and the four remaining nitrogen valences are occupied by bromine, higher and lower alkyl groups.

U.S. 2,368,335
New barbituric acid derivatives.—to the Maltbie Chemical Co., Newark, N.J.— Jan. 30, 1945.

5,5 disubstituted barbituric acid derivatives in which one valence of C_5 is occupied by a thiocarbonyl group and the other by a radical with its carbon atom directly attached to C_5, and wherein N_3 may be hydrogen, alkali or earth alkali metal, ammonium or alkyl ammonium groups.

U.S. 2,368,336
New barbituric acid derivatives.—to The Maltbie Chemical Co., Newark. N.J.—Jan. 30, 1945.

The formula of U.S. 2,368,335, wherein C_2 carries a sulfur atom instead of oxygen.

U.S. 2,368,337
New barbituric acid derivatives.—to The Maltbie Chemical Co., Newark, N.J.—Jan. 30, 1945.

The formula of U.S. 2,368,335 wherein the thiocarbonyl group in C_5 is replaced by a beta-thio-ethyl radical.

U.S. 2,368,338
New barbituric acid derivatives.— to The Maltbie Chemical Co., Newark, N.J.— Jan. 30, 1945.

The compound of U.S. 2,368,337 wherein C_2 carries a sulfur atom instead of oxygen.

U.S. 2,369,111
Blood clotting accelerator.—to Lederle Labs., Inc., New York.—Feb. 6, 1945.

A blood clotting composition is prepared by fractional precipitation of the factor in a plasma, ammonium sulfate being the precipitating agent. Only the second precipitate, redissolved and freed from the sulfate, contains the blood clotting principle.

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Nail Enamel

(Continued from page 315)

imately 3″ x 2″ x 1/16″ thickness are used. The glass is placed on a flat surface and an amount of nail enamel equivalent to about the size of a half dollar is poured from both the standard as well as the batch which is being checked. The glass is then raised to a perpendicular position in order to allow the nail enamel to flow and dry. After the nail enamel is dried the glass is held to a light. Both the standard as well as the batch in question should possess the same transparency and undertone.

Checking Drying, Adhesion and Flexibility

Perhaps the most reliable means of testing the quality of nail enamel would be on the consumers' finger nails, however, it is a rather complicated ordeal to test every shipment of nail lacquer. There are simple laboratory tests that are fairly accurate providing one has tested and proven quality standard retains. The following procedure may be adopted for testing batch shipments of nail enamel as compared to the established standards. The pourouts of the standard and the batch shipments are made side by side on a glass panel. The panels are then raised to a perpendicular position. After both films are permitted to set for several minutes the drying qualities of the batch as compared to the standard may be determined by checking comparative points on both pourouts. After one is satisfied that the drying qualities of the batch sample compares favorably with the standard the panel is set aside for several hours in order to permit both films to dry thoroughly. After both films have thoroughly dried one can scratch the surface of both pourouts and compare them for adhesion to the glass and flexibility.

Packaging Nail Enamel

There are many problems that confront the packager of this product. Naturally, distinctive packaging is the aim of every distributor. However, many factors are to be taken into consideration in designing a nail enamel package. The glass in itself must be neutral. The shape of the bottle must not lend itself toward the gathering of any precipitated pigment on the sides. Bottles that taper inwardly do not flatter the contents. The neck of the bottle should be small in order to minimize evaporation.

Brushes

Of equal importance to the actual contents is the brush used for application. The qualities of a good nail enamel could be voided by use of a poor brush. The most suitable type hair for the enamel brushes is either pony or squirrel hair. The hair should be between 7/16″ and ½″ long and the tuft crimped in such manner as not to permit any loose hairs. The shank of the brush should be preferably of anodized

aluminum. Since many of the packagers of the better grade nail enamels have learned the importance of the brush they have set up special departments to examine carefully, trim and treat the brushes before they are inserted into the caps. Nail enamel caps are moulded with a well to which the brush is inserted by a friction fit. Cap liners must be of a non-porous solvent resistant composition. It is essential that the liners be glued to the cap.

Filling Equipment

There are various types of nail polish fillers available. The most suitable type of equipment would be a gravity filler as the use of suction filling equipment would have a tendency to raise the viscosity of the nail enamel as a result of the pressure that is used in drawing the material through the tubes. Gravity fillers may be had with anywhere from three to eight filling tubes. When production of 60 or 70 gross per day is required a small gravity filler would serve the purpose. Where greater production is required automatic conveyor lines could be set up which would include large gravity filler, automatic cappers, brush inserting machines and labelers.

Preparation for Filling

Before the nail enamel is filled off into bottles it is very necessary that the contents be thoroughly agitated in order that the color be uniform throughout the original container. It is also essential that the temperature of the material be between 72° to 75°. When storing nail enamel in the original containers it is advisable to reverse the position of the container every four or five days. This will avoid any possibility of the precipitants becoming hard on the bottom of the container. It is also suggested that the materials be stored in cool places as high heat has a tendency to cause the material to drop in viscosity.

The general use of nail enamel will continue to expand in view of the fashion trends in vogue. Women have become very color conscious and as such there has been a definite trend towards matched lips and finger tips as well as matched finger tips to costume.

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